ABSTRACT

Title of Dissertation: THE INTERACTION OF PEER INFLUENCE AND SELF-PRESENTATION IN COLLEGE STUDENTS' ALCOHOL CONSUMPTION

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Dissertation directed by: Professor Harold Sigall, Department of Psychology

This research examined alcohol use among college students from a social-psychological perspective. I investigated two factors, not yet paired together in prior research, that interact to influence college students' attitudes toward alcohol as well as their decision to consume alcohol and the amount of alcohol they consume. These two factors are the amount of alcohol consumed by an individual's peers and the individual's motivation to engage in self-presentation. I present a theoretical model of college students' alcohol consumption that incorporates these variables, among others, and I present results of two studies investigating the relationships among these variables. I investigated whether individuals consume alcohol, in part, for self-presentational purposes. More specifically, I hypothesized that individuals high in the ability and motivation to present desirable images to others (high self-monitors) will be more likely than individuals low in such ability and motivation (low self-monitors) to match the alcohol consumption behaviors displayed by their peers. Results supported this hypothesis as well as other, secondary, hypotheses.

THE INTERACTION OF PEER INFLUENCE AND SELF-PRESENTATION IN COLLEGE STUDENTS' ALCOHOL CONSUMPTION

by

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Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2006

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Dedication

To the three most amazing women in the world; My beautiful, faithful, and loving wife, Lorée, who is the greatest gift God has ever given to me; and my two little women, Addison and Aria (ages 8 and 2), who fill my heart with joy every day. I love you.

Acknowledgments

Foremost, I thank the person who has helped me the most to become the man that I am today, my wife Lorée. I would not be where I am today without your undying love and support. Although I cannot find words that convey how much I love you, trust in the fact that such a written expression would exceed the length of this dissertation tenfold. You've stayed with me through the good and the bad, and I promise you that our lives will only get better from here.

I thank my father for his love and support, and my mother for the inspiration and motivation that she gave me before she passed away, and for doing the very best that she could for a troubled teenager who didn't deserve the best and never recognized it when he had it.

Thank you to Frank and Sharon Arthur for being so supportive and compassionate, and being examples of who I hope to be one day.

I thank my family and friends (Shannon-and-Mike, Wulf, Royce, Linda, Jean, Marissa, Abby, Chris, Bert-and-Heather, Jeremy, Doug, Lanty, and everyone else) for always believing in me.

Thank you to my mentors and colleagues at school and work (Drs. Sigall, Mills, Stangor, Kruglanski, Lejuez, Meeker, Wish, Voas, Lacey, Kelley-Baker, and Johnson). I thank my employer, the Pacific Institute for Research and Evaluation, for the scheduling flexibility and award funding that made this research possible.

I also extend a thank you (although a somewhat passive-aggressive one) to my committee members for tearing me down during my proposal phase and helping me build myself into a better scientist. They taught me that I could overcome even the most devastating of academic setbacks.

And last but not least, I thank Jesus Christ for carrying this burden for me. (You didn't think I did it myself, did you?) After what has been an arduous journey of more than ten years of college and graduate school, the most important thing that I learned had nothing to do with science, psychology, or statistics; it was only that "I can do all things through Christ, who strengthens me" (Philippians 4:13).

Thank you everyone!
Dr. Raamses Rider (finally)

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The Interaction of Peer Influence and Self-Presentation in College Students' Alcohol Consumption

This research offers a novel social-psychological perspective on an enduring concern in our society, and especially on college campuses: the use and misuse of alcohol. Although some current and past research on alcohol use has incorporated some of its theory, the field of social psychology can further inform research in the area to help attain a clearer perspective on the behavior. Alcohol "use" refers to consumption of alcohol that is not necessarily excessive or damaging, and "misuse" refers to an excessive and potentially harmful use of alcohol, including both underage drinking and binge drinking (the Center for Alcohol Studies, 2004). The CAS restricts the term "abuse" to refer only to a level of alcohol misuse that meets the diagnostic criteria for "alcohol abuse" established in the DSM-IV. The research described herein has implications for all three types of alcohol-relevant behaviors; however, I will use the term "use" (or "consumption") throughout the document because my experimental research focuses specifically on alcohol "use" rather than more extreme usage which can be termed "misuse" or "abuse." When discussing prior research, I use the terms as they are defined above or as used by original authors.

The negative outcomes associated with high levels of alcohol use have become common knowledge in our culture, and volumes of research address the issue as well. A brief recapitulation of descriptive statistics can highlight the problem: In 2002, there were 17,419 people killed in traffic crashes involving alcohol, representing 41 percent of the

people killed in all traffic crashes in the United States, which is an average of about 1 alcohol-related fatality every 30 minutes (National Highway Traffic Safety Administration, 2003). Nearly 14 million Americans abuse alcohol or are alcoholic, which is an average of 1 in every 13 adults (National Institute on Alcohol Abuse and Alcoholism, 2001), and the most recent estimate of the overall annual economic cost of alcohol abuse was $185 billion a year (Harwood, 2000).

Statistics further indicate that college students are at particular risk for alcohol use (and misuse) and its associated negative consequences: A U.S. Department of Health and Human Services National Survey (2004) found that the highest prevalence of both binge drinking (drinking five or more drinks on the same occasion at least once in the past 30 days) and heavy drinking (drinking five or more drinks on the same occasion on at least 5 different days in the past 30 days) was for young adults aged 18 to 25, with the peak rate occurring at age 21. The survey also found that past-month alcohol use was reported by 64.9 percent of full-time college students. Furthermore, data from this same national survey for the preceding year showed that 41.5 percent of 21-year-old college students reported driving under the influence of alcohol within the past year (Office of Applied Studies, 2003).

Prendergast (1994) reported that alcohol is used by 90% of college students (used at least once in the last year). According to national studies conducted in 1997 and 1999 by the Harvard School of Public Health (Wechsler, 2000), nearly half of all the college students who were surveyed binge-drank (drank at least four or five drinks in one sitting) within the two weeks prior to the study. Furthermore, college students are especially at risk for many negative outcomes associated with alcohol use, such as automobile

accidents, physical aggressiveness, unprotected sex, and legal difficulties such as DUI (Glindemann, Geller, Clarke, Chevallier, and Pettinger, 1998).

A student drug survey administered at the University of Maryland indicated that 87.8% of students reported past year alcohol use, and 35.5% binge drank within two weeks prior to the survey (Hsu and Wish, 2000). Negative alcohol-related consequences were also prevalent among Maryland students, such as driving while intoxicated, missing class, having unprotected sex, fighting, encountering sexual assault, and getting injured while intoxicated, among others. Comparisons between the University of Maryland survey and national surveys indicated that the level of alcohol use among Maryland students is similar to that found among college students nationwide.

In answer to these troubling patterns of alcohol use and the accompanying negative behaviors in which college students often engage, several researchers have developed theories and investigated numerous variables considered to be important determinants in college students' alcohol consumption. These variables can be categorized in different domains and are reviewed and summarized in a comprehensive theoretical model in the pages to follow.

Factors Influencing College Students' Alcohol Use

Enduring Individual Characteristics

The first general domain of factors influencing college students' alcohol use consists of the enduring characteristics of the individual, him or herself. One very important and often-studied characteristic within this domain is an individual's alcohol expectancies, defined as "subjective beliefs about the extent to which alcohol will produce desired outcomes" (Hittner, 1997, pg. 298). These include expectancies of

alcohol's impact on mood or affect (Cox and Klinger, 1988; Oei and Jones, 1986), expectancies about the utility of alcohol in attaining desirable behavioral and emotional outcomes (Critchlow, 1987; Oei and Jones, 1986), and several other types of expectancies, such as those regarding alcohol's effect on socialization/social behavior, partying, having fun, relaxation, enhanced sexuality, behavioral impairment, physical tension reduction, increased interpersonal power, and disinhibition (Hittner, 1997; Leigh, 1989; Jones & McMahon, 1998; Williams & Clark, 1998; Oei and Jones, 1986; Stacy, Widaman, & Marlatt, 1990; Baer, 2002). In general, positive alcohol expectancies are associated with increases in alcohol use, while negative alcohol expectancies are associated with decreases; however, some research suggests that positive expectancies are more predictive of drinking than negative expectancies (Hittner, 1997; Stacy, Widaman, & Marlatt, 1990).

This *Enduring Individual Characteristics* domain also consists of characteristics such as global expectancies, which are more general beliefs about the self and future outcomes and, when positive, are associated with less frequent alcohol and substance use (Carvajal, Evans, Nash, & Getz, 2002); extroverted personality, which is associated with heavier drinking (Baer, 2002), genetic and biological factors, which have been shown through twin studies, sibling studies, and other family studies to be important determinants of alcohol abuse (Day and Homish, 2002); biological characteristics of the brain, which were found to directly and indirectly increase the propensity toward alcohol consumption in adolescents (Spear, 2002); desire for acceptance, which can increase use if peers are perceived to approve of use (Chassin, Tetzloff, & Hershey, 1985), stress-responsivity and arousal, which (when stress is high and arousal is low) are associated

with drinking to cope (Williams & Clark, 1998); taste preferences (Klein, 1992); and moral beliefs (Abide, Richards, & Ramsay, 2001), among others.

The individual characteristic that is of central importance for my studies is an ability and motivation to engage in self-presentation. *Self-presentation* (also called *impression management*) refers to the process by which individuals attempt to control how they are perceived and evaluated by others (Goffman, 1959; Leary; 1994; Leary, Tchividdjian, & Kraxberger, 1994). The ability and motivation to engage in self-presentation has been measured by Snyder (1974; 1987; Gangestad and Snyder, 2000) using his Self-Monitoring Scale. This individual characteristic, *self-monitoring*, has been defined by Snyder (1987) as the extent to which a person values, creates, cultivates, and projects social images and public appearances, thus it is closely associated with the concept of self-presentation in general. Snyder has identified a self-monitoring distribution upon which people lie, ranging from high self-monitoring to low self-monitoring: High self-monitors are people who are very concerned with presenting social images to others. They monitor their expressive behavior and regulate their self-presentation accordingly, for the sake of desired public appearances. Their behavior may be highly responsive to social and interpersonal cues of what is situationally appropriate (Snyder, 1987). In contrast, low self-monitors do not engage in expressive control, and have not acquired the same concern for self-presentation or situational appropriateness. Their expressive behavior is thought to be reflective of their own inner attitudes, emotions and dispositions (Snyder, 1974). I use the self-monitoring construct in my research as a useful indicator of individuals' ability and motivation to engage in self-presentation.

Although not specifically investigating alcohol use, some previous studies have shown self-monitoring differences in the extent to which people are influenced by others: For example, Harris and Rosenthal (1986) showed that high self-monitoring clients in a counseling relationship yielded more to their counselors' expectations and unintentional influences on their behavior. These researchers suggested that the Interpersonal Expectancy Effect (an effect in which an individual's expectancies can inadvertently influence a target person to behave in ways that confirm those expectancies) is stronger in high self-monitoring targets than in low self-monitoring targets. Graziano and Bryant (1998) found that high self-monitors' ratings of pictures were more influenced by external cues, specifically Valins' heart-rate feedback procedure (providing the participants with false feedback about their heart rates), than were low self-monitors' ratings. Lassiter, Stone, and Weigold (1988) showed that high self-monitors were more attentive to, and had better recall for, information about an observed target person, when compared to low self-monitors. They also demonstrated that high self-monitors were more susceptible than low self-monitors to leading questions from an interviewer.

Even though these studies are not directly relevant to college student's alcohol use they may be pertinent for investigating alcohol consumption because they suggest that high self-monitors may be more influenced by the alcohol-related expectations and behaviors of others than low self-monitors; that when making judgments about alcohol consumption, a high self-monitor may rely more heavily on an external cue such as the consumption behaviors of his or her peers than would a low self-monitor; and that high self-monitors may attend more to the amount of alcohol consumed by their peers in order

to guide their self-presentational behavior, and they may be more influenced by the "lead" provided by peers. These possibilities were investigated in my studies.

Previous researchers have also investigated the specific relationship between self-presentation and alcohol use, which is the central interest of the current research. Leary, Tchividjian, and Kraxberger (1994) offered a brief review of studies, concluding that "self-presentational motives are strongly involved in the decision to use alcohol, tobacco, and illicit drugs." Sharp and Getz (1996) showed that people who reported that they have used alcohol in the past scored higher on the self-monitoring scale than people who reported never having used alcohol. These authors argue that alcohol and other substance use can serve an impression management function thus it is susceptible to influence by an individual's self-monitoring status, and in some cases alcohol and substance use can lead to the attainment of social rewards. Martin and Leary (2001) found that over 90% of students who reported consuming alcohol for self-presentational reasons said they did it to appear "fun/social" and nearly 70% said they did it to appear "cool/laidback."

Shute (1975) empirically demonstrated that college students, randomly assigned to be exposed to a group that consistently espoused either anti-drug or pro-drug attitudes, were highly likely to conform to the group's attitudinal norms toward drug use (the specific type of drug use was not specified in the group discussions; rather the groups discussed "personal drug use" in general). Shute stated that the influences of peers are quite powerful motivators toward (or away from) experimentation with drugs. Although Shute's study topic was drug attitudes, the peer influence that was demonstrated in the study may be applicable to alcohol attitudes. This was investigated in my research.

Although the aforementioned studies support the general idea that self-presentation (i.e., self-monitoring) is an important influence on alcohol consumption, some studies have not found significant relationships between self-monitoring and alcohol use (Wolfe, Lennox, and Hudiburg, 1983; Wolfe, Lennox, and Cutler, 1986). It is important to note, however that Wolfe et al. (1983) did not report a statistically significant effect, and both studies had some methodological issues that call their findings into question. For example, they were conducted over 20 years ago using an early version the self-monitoring scale, which has since undergone significant revisions to improve its internal consistency, validity, and reliability. Also, they relied solely on self-report measures (high self-monitors are particularly aware of what behavior is desirable for a given situation, thus they may have thought it more desirable to *report* that their alcohol use was not influenced by others, so as not to appear to be a conformist). Further research is needed to clarify these inconsistencies, and the research I conducted adds clarity regarding the relationship between self-presentation and alcohol use.

Environmental Factors

Another domain of factors that influence college students' alcohol use includes characteristics of an individual's environment. These are generally factors that do not involve social interaction; rather they include physical aspects of an individual's environment that can affect alcohol consumption. Although the literature on these factors is not as extensive as research on individual characteristics, previous empirical evidence suggests their importance.

These environmental factors include the number and location of alcohol outlets, which has a positive relationship with alcohol consumption (Gruenewald, Millar, &

Treno, 1993; American Medical Association, 2001); price of alcohol, which has an inverse relationship with consumption (Holder, 1989; Gruenewald, Millar, & Treno, 1993; American Medical Association, 2001); amount of alcohol advertising, which has a positive relationship with consumption (American Medical Association, 2001); and stringency of drinking laws, which reduce consumption (American Medical Association, 2001). See Presley, Meilman, & Leichliter (2002) for a review of these factors.

Enduring Social Factors

Although the *Environmental Factors* category includes non-social factors in an individual's environment that can influence alcohol use, there are also important factors involving social interactions. Some social factors that affect drinking are situation-specific, while others are relatively enduring within a college environment.

The *Enduring Social Factors* domain includes variables such as the general culture/climate of a college campus regarding drinking, which can either promote or discourage drinking (Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism, 2002); social networks which can be associated with increases or decreases in consumption, depending on the characteristics of peers in the network (Reifman & Watson, 2003); social norms, which generally tend to be associated with an increase in consumption on college campuses because individuals perceive consumption levels of their peers to be higher than they actually are (see Borsari and Cary, 2001; and Perkins 2002 for reviews; Beck and Treiman, 1996; Graham, Marks, & Hansen, 1991; Prentice and Miller, 1993). Other influences include where an individual lives, such as on-campus or off-campus (Martin and Hoffman, 1993; Presley, Meilman, & Leichliter, 2002; Baer, 2002); peer attitudes toward alcohol use (Dijkstra, Sweeney, & Gebhardt, 2001; Shute,

1975), and the degree of supervision (Clark, Thatcher, & Maisto, 2005), among others. The research I conducted is very relevant to this area in that it adds insights to several of these factors, such as peer attitudes and social norms. These implications will be discussed in greater detail later.

Acute Individual Characteristics and Acute Social Factors

Variables in the domains of *Acute Individual Characteristics* and *Acute Social Factors* have been shown to exert an influence on alcohol use behaviors. These are individual and social factors that are assumed to vary in different situations rather than endure across situations. It is important to note, however, that some variables can be categorized as both *enduring* and *acute* at the same time because previous research suggests that these variables can be present to some degree at levels that are enduring across situations, but the levels of these variables can also be situationally or temporarily influenced (such as self-presentational motivation and alcohol expectancies).

Acute Individual Characteristics that are relevant for alcohol consumption are stress, which is generally associated with greater consumption (Beck and Treiman, 1996); alcohol expectancies (Cox and Klinger, 1988; Critchlow, 1987; Hittner, 1997; Leigh, 1989; Jones & McMahon, 1998; Oei and Jones, 1986; Stacy, Widaman, & Marlatt, 1990; Baer, 2002); salient reference group, which could increase or decrease consumption (although not yet empirically linked with alcohol use; see Baldwin and Holmes, 1987, for evidence of the general effect); motivation for emotional escape, which is associated with increased consumption (Farber, Khavari, & Douglass, 1980; Williams & Clark, 1998; Baer, 2002; Berkowitz & Perkins, 1986); mood, and other motivations such as self-handicapping or emotion regulation (Jones & Berglas, 1978; Cooper, Frone, Russell, &

Mudar, 1995). As previously mentioned, one motivation involved with alcohol use that is of particular importance for my research is a motivation for self-presentation; although I use a measure of relatively enduring self-presentation motivation in my research (i.e. the self-monitoring scale), previous research has shown that such a motivation can vary situationally (Martin & Leary, 1999). One type of expectancy that is very important for my current research is a social benefit expectancy (Chassin, Tetzloff, & Hershey, 1985; Baer, 2002), in which individuals perceive a positive effect of alcohol on subsequent social interactions, such as lowered social anxiety and inhibitions.

Acute Social Factors include aspects of a given social scenario such as alcohol acceptance within a specific situation (whether drinking is permitted, encouraged, or discouraged) (McKnight, Lange, & McKnight, 1995); active peer offers of alcohol, which are associated with higher consumption (Graham, Marks, & Hansen, 1991); size and gender composition of group, with larger groups consisting of more males being associated with more consumption (Baer, 2002); social facilitation, which can increase consumption (Beck and Treiman, 1996; Baer, 2002); and situational impact on self-presentational concern (Martin and Leary, 1999). Some other variables that are of particular interest to my research are peer attitudes (Dijkstra, Sweeney, & Gebhardt, 2001; Shute, 1975), peer alcohol consumption (See Borsari and Carey, 2001, for a review; Baer, 2002; Berkowitz and Perkins, 1986; Garlington and Dericco, 1977), and likeability of peers (peer attractiveness).

Peer alcohol consumption and peer attitudes are important social factors in my research. They can be conceptualized as exerting both normative and informational influence: They are normative in that peer consumption and attitudes set a norm for an

individual and a feeling of ostracism or disidentification may occur if the norm is not met. This is what individuals commonly refer to as "peer pressure." It is also important to acknowledge the informational influence of peer alcohol consumption and attitudes: Peer influence can affect an individual's *attitudes* and beliefs about alcohol consumption. Furthermore, peer alcohol use is informational in that it provides a situational guideline as to what amount of alcohol consumption is appropriate for a given situation or with a given group of peers.

Attention to Peer Consumption

A variable that bears a common-sense relationship with alcohol use is the degree of attention that is paid to peer consumption. Previous research suggests that peer consumption can influence individuals' alcohol consumption (for a review, see Borsari and Cary, 2001); however, one must attend to this peer consumption in order to be influenced by it. The amount of attention can be influenced by several factors, such as self-monitoring status (as mentioned previously) and peer attractiveness, among others. This degree of attention has not been widely investigated in alcohol-use research, but was an important variable for the current research.

Attitudes toward Alcohol Consumption

Alcohol-relevant attitudes undoubtedly influence alcohol consumption; Positive alcohol-attitudes increase consumption, while negative alcohol-attitudes decrease consumption (Burden and Maisto, 2000; Leigh, 1989). Alcohol-attitudes are essentially an individual characteristic, however they are assumed to vary based on certain influences, and thus they are categorized separately here (although it is clear that attitudes

can have the property of stability when uninfluenced). I have categorized them separately for purposes of emphasis, as attitudes are an important outcome variable in my research. Research shows the importance of attitudes in influencing behavior in general (see Ajzen and Fishbein, 1977) and in alcohol use, specifically (Burden and Maisto, 2000; Leigh, 1989).

Alcohol Outcomes

Decision to Consume

Two important outcomes have heretofore been lumped together as "alcohol consumption behaviors." These can be separated into two more specific types of behaviors; the *Decision to Consume* and the *Decision of How Much to Consume*. These outcome behaviors are theorized to be influenced by several factors. The first step in alcohol use is for an individual to decide whether or not to drink any alcohol at all. Some individuals choose not to drink in specific situations or across many situations, while others choose to drink. This decision is influenced by the many factors discussed in the preceding pages.

Decision of How Much to Consume

After one has chosen to drink, he or she must then decide how much to drink. This, again, is influenced by the variables specified in the preceding pages. While the decision of whether to consume at all differentiates drinkers from abstainers, this decision point (how much to consume) differentiates binge drinkers from those who consume at more moderate, safe levels. Thus both of these outcome measures are important to fully understand the college students' alcohol use behaviors.

Extent of Consumption

Because behavioral intentions and attitudes do not have a perfect correlation with actual behaviors (see classic research by LaPiere (1934) and Eagly & Chaiken (1993) for a review), I have categorized the decision of how much to consume and the extent of actual consumption separately. One can decide to consume very little, but then actually consume greater quantities than planned (or vice versa). The actual amount consumed is influenced by the behavioral intentions and other factors, many of which are acute, situation-specific factors that change a person's intentions or ability to monitor his or her consumption (such as alcohol consumption, itself).

Theoretical model

College students' use of alcohol is, without question, determined by a multitude of factors. It is virtually impossible to fit *every* factor in one model; however, I have included in a comprehensive theoretical model several general domains that have been empirically demonstrated as important influences in alcohol consumption (as elucidated in the preceding pages). The model is specific to college students because many of the variables/domains presented here were investigated in prior research with college students as the population of interest; however, the model may be relevant to the alcohol consumption behaviors of other populations as well. The theoretical model summarizing factors that influence college student's alcohol consumption can be seen in Figure 1.

[Insert Figure 1 Here]

As can be seen at the top of the figure, there are three general domains (factor areas) that constitute higher-order exogenous (unexplained) variables in the model. These are *Enduring Individual Characteristics*, *Environmental Factors*, and *Enduring Social*

Characteristics. As mentioned, these variables influence college students' alcohol use behaviors directly, but they also influence many other endogenous (explained) variables involved in alcohol use, and thus exert an indirect influence as well. The effects of these variables are so wide-ranging that they interconnect extensively with the other variables in the model.

The left side of Figure 1 displays two other domains that are considered to contain exogenous variables in the proposed model. These are *Acute Individual Characteristics* and *Acute Social Factors*. The variables in these domains are theorized to exert an influence on alcohol use behaviors both directly and indirectly. Also as shown in the model, *Attitudes toward alcohol consumption* obviously influence consumption, but they are also influenced by other factors and thus are considered an important outcome in my research, in and of themselves. *Attention to Peer Consumption* is considered a mediator in my research and it is hypothesized to influence the decision to drink as well as the amount of alcohol consumed, so it is included as a separate factor in the model. Two important outcome variables included in the model are a *Decision to Drink* and a *Decision of How Much to Consume*. These outcome behaviors are theorized to be directly and indirectly influenced by several factors, as specified in the model. Lastly, the *extent of consumption* itself, is included as the ultimate outcome of interest.

Although this comprehensive theoretical model depicts the overall inter-relationships among many variables involved with alcohol consumption, the research I conducted did not attempt to test the model in its entirety. It is possible to statistically test such a model using path analyses or structural equation modeling; however, the ultimate difficulty therein lies in data collection rather than analysis: The overarching model

incorporates a multitude of variables involved with alcohol use, thus it was beyond the scope and resources of this project to measure every variable in the model to assess the inter-relationships; Instead, I focused on smaller and more-restricted relationships within the model for investigation. I investigated specific variables within certain domains, but these variables in no way represent a domain in its entirety, and thus should not be considered interchangeable with other variables of the same domain. The influencing variables of particular importance for my studies were self-monitoring, peer attractiveness, peer attitudes, peer consumption, and an individual's attention to peer consumption (see Figure 2). Although some previous research has highlighted the role of some of these variables in alcohol use, the inter-relationships among them lack empirical investigation. Other influences, such as alcohol expectancies and social norms, have generated volumes of research, but these social-psychological variables, and the possible interactions among them, have been overlooked in much of the alcohol-use literature. The amount of variance in college students' alcohol use that can be explained by these variables is unknown at this point, thus the studies conducted were important in offering an empirical assessment of the importance of these factors.

[Insert Figure 2 Here]

My purpose in presenting an overall model is not to create a completely novel theoretical perspective on alcohol use; rather it is to establish the context of my hypotheses within the larger body of previous literature and theorizing on the subject. I hope to establish that my hypothesized relationships are not trivial; however, I also want to clarify that I do not construe them as the utmost critical relationships in alcohol consumption either. Despite the focus on isolated factors within my research, it is

obvious that there are other variables that influence alcohol use outcomes, and college students' alcohol consumption results from a confluence of forces that influence each individual's decisions and behaviors.

Before detailing the hypotheses for my studies, it is also important to note that this project was based on the assumption that alcohol use can serve as a means for individuals to present *positive* images to peers (such as being cool, laid-back, or sociable). It is clear that alcohol consumption can produce undesirable images as well. Although not based on empirical evidence, it is plausible that the image that is conveyed depends on the circumstances in which the drinking occurs. For example, drinking alcohol after leaving an Alcoholics Anonymous meeting could present images of a person being "mentally ill," "helpless," or "self-destructive." On the other hand, drinking alcoholic beverages such as a fine wine in a French restaurant may portray quite opposite impressions, such as "connoisseur," or "sophisticated," among others. When college students find themselves in a college environment in which peers are consuming alcohol regularly, images associated with drinking may be largely positive. Pilot testing for my research suggested that this was likely, indicating that college students who drink heavily on weekends were most commonly viewed by other students as "normal," "sociable," and "fun," and my research investigated this even further. Previous research suggests that peer approval of drinking is related to college students' drinking as well (Borsari and Carey, 2003; Kahler, Read, Wood, & Palfai, 2003; Larimer, Irvine, Kilmer, & Marlatt, 1997).

Hypotheses and Research Questions

Because my studies investigated many novel inter-relationships, some of the research was exploratory in nature. For relationships that had not been investigated in previous literature, I developed several research questions. For relationships that follow from previous research or theory, I developed specific hypotheses to be tested. The following research questions and hypotheses are stated at the conceptual level. Specific operations and analyses used to test each question/hypothesis are detailed in the methods sections for the studies.

Hypothesis 1

Individuals with a high motivation and ability for self-presentation (high self-monitors) will match the alcohol consumption behaviors of their peers more so than will individuals low in self-presentation motivation and ability (low self-monitors).

Rationale

Based on the previous research on self-monitoring specified in the background section, I propose that high and low self-monitors differ in the extent to which they use peer alcohol consumption as informative of situational appropriateness. High self-monitors will be more likely to use a peer's alcohol consumption behaviors as a cue for appropriate behavior, and will be more inclined to present themselves as similar to the peer by consuming similar amounts of alcohol, when compared to low self-monitors. They will also be more attuned to the normative pressure involved with alcohol consumption and be more motivated to present a desirable image. This was the central hypothesis for my studies and I tested this with both self-reports and a behavioral measure.

Hypothesis 2

Individuals will match the alcohol consumption behavior of an attractive peer more so than that of an unattractive peer, and this effect will be greater for high self-monitors than for low self-monitors.

Rationale

I propose that the amount of liking/attraction toward peers is an important social factor that plays a role in the relationship between a person's consumption and peer consumption; a person often associates with peers who are liked, and thus is motivated to present a desirable image to those peers. In my research, I propose that the amount of attention that is paid to peers is influenced by self-monitoring status as well as peer attractiveness. This attention can then affect the individual's alcohol consumption.

Hypothesis 3

High self-monitors will adjust their alcohol-relevant attitudes to match the attitudes that they perceive a peer to hold, more so than will low self-monitors.

Rationale

This follows from Shute's (1975) experiment on drug use attitudes. The rationale is similar to that underlying the hypothesized peer effect on alcohol consumption; High self-monitors will be more likely to observe and use the peer's expression of attitude as a cue for the desirability of these attitudes, and will be more inclined to present themselves as similar to the peer by expressing similar attitudes.

Hypothesis 4

High self-monitors will attend more to the alcohol consumption behaviors of a peer than will low self-monitors.

Rationale

Research shows that high self-monitors pay more attention to peer behaviors and external cues than do low self-monitors. This occurs across several domains and thus should apply to alcohol consumption behaviors as well.

Research Question 1

Are low self-monitoring individuals more likely than high self-monitors to report never having used alcohol before?

Rationale

This question is derived in part from the evidence that the vast majority of individuals in our society first try alcohol in the presence of peers, rather than alone (see Leary, Tchividjian, and Kraxberger, 1994), and the research by Sharp and Getz (1996) showing that self-monitoring status differs among alcohol initiators vs. noninitiators. I propose that high self-monitors engage in alcohol consumption at least in part for self-presentational reasons (especially the first time alcohol is tried), therefore I investigated whether low self-monitors, who are less likely to be concerned with self-presentation, are thus less likely to have tried alcohol.

Research Question 2

Of the people who have reported consuming alcohol in their past, are low self-monitors more likely to report having consumed alcohol while alone?

Rationale

Since I propose that alcohol consumption is at least partially self-presentational, and I predict that high self-monitors will be more motivated by the self-presentational implications of consumption than low self-monitors, I investigated whether high self-

monitors will be more likely to drink with others, and low self-monitors will be more likely to drink alone without any self-presentational benefits. Although no previous literature has specifically investigated this relationship, it follows from the literature discussed in the background section showing that high self-monitors engage in behaviors to present images to others, more so than low self-monitors.

Research Question 3

Are low self-monitors more likely than high self-monitors to report that they usually do not notice how much alcohol their friends consume when out with them?

Rationale

This is based on the previous literature that suggests that high self-monitors are more vigilant to external cues. Thus I investigated whether this general finding applies to the area of alcohol use, and determined whether low self-monitors will report less awareness of peer alcohol consumption.

Research Question 4

Are high self-monitors more likely to report that they have consumed alcohol to influence someone else's opinion of them, when compared to low self-monitors?

Rationale

Although, based on previous literature, I can hypothesize that high self-monitors do indeed use alcohol to influence others' opinions more than low self-monitors, it is unclear whether they will report this honestly, or whether they are even aware of it. Thus I investigated whether or not self-reports can be used to verify this relationship.

Research Question 5

Are the social images that college students attribute to college-aged binge drinkers largely positive, negative, or neutral, and do these images depend on gender and age of the drinker? Do these images that college students attribute differ from the images that they think *other* college students attribute?

Rationale

Although there is much research on the extent to which college students approve or disapprove of drinking, underage drinking, binge-drinking, etc., and there are volumes of research on college students overestimation of peer alcohol consumption, the specific social images that college students associate with drinking (binge drinking in particular) have not been firmly established, aside from the images that students try to portray. In other words, the images that drinkers attempt to *portray to others* has been studied, the images that are *perceived by others* have received less empirical study. Thus I investigated the images that students ascribe to binge-drinkers, and assess what variables influence those images.

Research Question 6

Do high self-monitors, more than low self-monitors, report alcohol consumption that is similar in amount to their perceptions of peers' alcohol consumption?

Rationale

This follows from the idea that high self-monitors attend to peers' behavior and are motivated to match that behavior more than low self-monitors. It is possible that low self-monitors may be less accurate in judging their peers consumption (as stated in hypothesis 4), but this has not been established. There were some inherent difficulties in

testing this research question using self-reports, thus the behavioral hypothesis (hypothesis 1) was also tested in a separate study.

Study 1 Methods

Participants and Design

The participants for this study were 2,075 students enrolled in the introductory psychology course at the University of Maryland in the spring of 2004, fall of 2005, and spring of 2006. This was a correlational study with one continuous predictor variable (self-monitoring score) and several self-reported outcome variables (specific outcomes are detailed in the results section below). This study was used to investigate Research Questions 1 though 6.

Procedure

Participants completed Snyder's (1987) 18-item Self-Monitoring Scale (see Appendix A) and a novel questionnaire created by the current author to assess alcohol consumption behaviors (see Appendix B). I created this novel questionnaire instead of using questions from previously-established instruments such as the CORE Alcohol and Drug Survey (CORE Institute, 2004), the College Alcohol Study survey (Wechsler, Lee, Kuo, Seibring, Nelson, & Lee, 2002), the Monitoring The Future survey (Johnston, O'Malley, Bachman, & Schulenberg, 2004), the national telephone survey used in the Behavioral Risk Factor Surveillance System (Center for Disease Control and Prevention, 2004), or the National Survey on Drug Use & Health (U.S. Department of Health and Human Services, 2004) because, although providing good epidemiological and descriptive information, these previously established surveys did not contain the specific

questions necessary to investigate my hypothesized relationships. For example, none of the aforementioned surveys included questions about the extent to which a respondent is aware of peer consumption, or the social images involved with alcohol consumption. See Appendix B for a copy of the novel questionnaire, which demonstrates the specific nature of the questions necessary for my purposes.

I administered these measures within the first two weeks of each semester within a large battery of questionnaires completed during the Introductory Psychology class. Participants were told to work independently and they completed the surveys at their own pace and turned them in before leaving the classroom. The participants received extra credit for participating.

Study 1 Results

Sample Characteristics

The overall N=2,075, including 878 males and 1114 females (83 cases were missing gender information). Ages ranged from 16 to 50 years old, with the distribution tightly clustered around the mean age of 19.23 (s.d.= 2.06). Figure 3 shows the racial composition of the sample.

[Insert Figure 3 Here]

Figure 4 shows the self-monitoring distribution. Self-monitoring scores were fairly normally distributed. The mean self-monitoring score was 9.91 (s.d.=3.30) on an 18-point scale, and the median was 10.

[Insert Figure 4 Here]

For the following results, the n-sizes differed analysis-by-analysis and were lower than the overall sample size because I changed some survey items across semesters and some respondents left items blank.

Research Question 1

I tested Research Question 1 (Are low self-monitoring individuals more likely than high self-monitors to report never having used alcohol before?) with the survey question "Which of the following best describes your alcohol consumption behavior?" as the outcome variable. Responses were measured on a 5-point scale ranging from "never tried alcohol" to "consumed alcohol within the last two weeks."

Figure 5 shows the frequency of responses to the question. As shown, the distribution was largely skewed. With a sample size of 1990 respondents, 59.6% reported drinking within the last two weeks, and 82.6% reported past-year consumption. These percentages are comparable to those found in previous epidemiological research with college students, both nationally and at the University of Maryland (U.S. DHHS, 2004; Office of Applied Studies, 2003; Prendergast, 1994; Wechsler, 2000; Hsu and Wish, 2000).

[Insert Figure 5 Here]

I used Binary Logistic Regression with responses to this question coded as 0=never tried alcohol (n=221), and 1=consumed alcohol to some extent (n=1769) as the outcome measure. Self-monitoring status was the predictor variable analyzed two ways; continuous and quartile split. The quartile split analysis compared individuals scoring in the upper and lower 25% of the self-monitoring distribution (those scoring above 12 and below 8, respectively).

An odds ratio (OR) is calculated in logistic regression analyses. It is an effect size statistic; however, it is most intuitive for binary predictor variables, for which it indicates one group's relative odds of having a binary outcome variable occur, compared to another group. When a predictor is continuous, the odds ratio is less intuitive; it indicates the increase in the odds of the binary-coded outcome variable occurring per each unit increase in the predictor variable. Thus, the size of the odds ratio is a function of the number of units in the predictor variable. The self-monitoring scale as a predictor has 18 units; thus, a significant odds ratio would be much smaller than what would typically be found with a binary predictor, but this smaller ratio does not in itself indicate a weaker effect. The 95% confidence interval (CI) for the odds ratio also gives an indication of the magnitude of the effect; if the CI includes a value of 1.00 (for example, if the interval spans from .92 to 1.09), this indicates that the odds do not differ across the levels of the predictor variable (hence the ratio of around 1), and thus any effect due to the predictor is considered negligible. Any CI that is fully above 1.00 (indicating greater odds of the outcome) or fully below 1.00 (indicating lower odds of the outcome) is a meaningful result. A Wald statistic is also calculated for each odds ratio in logistic regression and serves as the test of significance. It is equivalent to a Chi-square statistic with one degree of freedom (the critical value of which is 3.64, at alpha=.05), and can be translated into other commonly used effect sizes, such as Cohen's w or Cramer's phi, for a further indication of the size of each effect reported here. I limit my reporting to the OR, CI, and Wald for the sake of parsimony.

The Binary Logistic Regression with continuous self-monitoring score as a predictor was significant; OR=1.14 (CI=1.08 to 1.19), Wald=27.30, $p<.001$ (n=1644).

The significant odds ratio indicated that for every unit increase in self-monitoring score, the probability of having tried alcohol increased by a multiplicative factor of 1.14 (which is a substantial increase considering that the self-monitoring scale is an 18-point scale). In other words, the higher an individual's self-monitoring score, the more likely it was that the individual had tried alcohol.

The result was also significant for quartile split self-monitoring scores; OR=2.96 (CI=1.83 to 4.78), Wald=19.64, $p<.001$ (n=792), showing that individuals scoring in the top 25% of the self-monitoring distribution were 2.96 times more likely to have tried alcohol than those in the bottom 25%.

Research Question 2

I tested Research Question 2 (Of the people who have reported consuming alcohol at any time in their past, are low self-monitors more likely to report having consumed alcohol while alone?) with the survey question "Have you ever consumed alcohol while ALONE?" Responses were measured on a 5-point scale ranging from "never" to "within the last two weeks."

Figure 6 shows the distribution of responses for this item. The distribution was highly skewed in that 70.2% of the people in the sample reported that they had never consumed alcohol alone (1396 out of 1989).

[Insert Figure 6 Here]

I used Binary Logistic Regression with the responses for this item as the outcome variable, dichotomized as 0=never drank alone (n=1396), and 1=drank alone at some point (n=593), and self-monitoring score as the predictor variable, analyzed two ways (continuous and quartile split).

The regression with continuous self-monitoring scores as a predictor was significant; OR=1.10 (CI=1.07 to 1.14), Wald=33.28, p<.001 (n=1642), which indicated that for every unit increase in self-monitoring score an individual was 1.10 times more likely to report having drank alone at some point. This was opposite of my prediction. The analysis with the quartile split self-monitoring score showed a similar relationship; OR=2.36 (CI=1.73 to 3.22), Wald=29.06, p<.001 (n=791). Again, this was opposite to what was predicted.

Research Question 3

I tested Research Question 3 (Are low self-monitors more likely than high self-monitors to report that they usually do not notice how much alcohol their friends consume?) with the survey question "If you go out drinking with friends, which best describes your awareness of your friends' drinking behavior?" Response categories ranged from "rarely ever notice" to "almost always notice" on a 4-point scale.

Figure 7 shows the distribution of responses for the question. I removed 341 out of 1991 individuals who indicated "not applicable" from the sample, leaving N=1650. The distribution was skewed with only 4.4% (73 out of 1650) of the sample reporting that they rarely ever notice the amount of alcohol consumed by their peers, while 79.6% reported that they often notice (608 out of 1650) or almost always notice (706 out of 1650) their peers' consumption.

[Insert Figure 7 Here]

An Ordinary Least Squares (OLS) regression did not find a significant linear relationship between continuous self-monitoring score and awareness of peer consumption, R(1358)=.03, p=.23; however, the highly skewed distribution of the

outcome variable may have suppressed the ability to detect a linear relationship. Thus, I also used Binary Logistic Regression with the outcome variable dichotomized as 0=somewhat noticing (n=1285), and 1=almost always noticing (n=706) due to the small number of individuals who never noticed consumption. Self-monitoring score was the predictor variable, analyzed two ways (continuous and quartile split).

The binary logistic regression showed significant results with the continuous self-monitoring score as the predictor; OR=1.06 (CI=1.02 to 1.09), Wald=11.83, p<.001 (n=1644). This indicated that with every unit increase in self-monitoring score, the probability of falling within the category of "almost always noticing peer consumption" increased by a multiplicative factor of 1.06 (which is a substantial increase considering that the self-monitoring scale is an 18-point scale).

The result with quartile split self-monitoring was significant; OR=1.68 (CI=1.25 to 2.26), Wald=11.78, p<.001 (n=792), indicating that the highest 25% of self-monitoring scorers were 1.68 times as likely to always notice their peers consumption than the lowest 25%.

Research Question 4

I tested Research Question 4 (Are high self-monitors more likely to report that they have consumed alcohol to influence someone else's opinion of them, when compared to low self-monitors?) with the survey question "Have you ever consumed alcohol to intentionally influence someone else's opinion of you?" with response categories ranging from "never" to "often" on a 4-point scale.

Figure 8 shows the skewed distribution of responses to the question. 69.0% of the respondents claimed to have never used alcohol to influence someone else's opinion of

them (1206 out of 1749), while only 31.0% admit to doing so at least on rare occasion (543 out of 1749). Less than 1% admitted to doing so often (13 out of 1749). This was interesting considering that 80.3% of the sample agreed or strongly agreed with a separate item stating that they believed their alcohol consumption (or abstinence from alcohol consumption) portrays something about their image to other people.

[Insert Figure 8 Here]

I used OLS regression with this 4-point outcome regressed on continuous self-monitoring scores, which revealed a weak-to-moderate but significant relationship between the variables, $R(1441)=.17$, $p<.001$. A discriminant analysis assessing mean self-monitoring scores across the 4-point outcome measure was significant, $F(3, 1438)=14.82$, $p<.001$. Figure 9 shows the pattern of means across the four levels of the outcome variable. As shown in the figure, as the frequency of using alcohol to influence others increased, so did self-monitoring score; however, these results should be interpreted with caution due to the small n-sizes in the "somewhat often" and "often" categories.

[Insert Figure 9 Here]

Due to the skewed distribution and the problematic n-sizes, I also dichotomized the responses for the item as 0=never drank to influence opinions (n=1206), and 1=drank at least rarely to influence opinions (n=543). A Binary Logistic Regression showed a significant odds ratio for continuous self-monitoring scores; OR=1.12 (CI=1.08 to 1.16), Wald=37.82, $p<.001$ (n=1442), which is in the predicted direction and indicates that increases in self-monitoring scores show an increased likelihood of drinking to influence opinions. The analysis with quartile split self-monitoring scores revealed similar results; OR=2.37 (CI=1.71 to 3.29), Wald=26.88, $p<.001$ (n=682).

Research Question 5

I assessed Research Questions 5 (Are the social images that college students attribute to college-aged binge drinkers largely positive, negative, or neutral, and do these images depend on gender and age of the drinker? Do these images differ from the images that they think *other* college students attribute?) using the following written scenario presented to respondents:

> *Please imagine a male (female) college student who is over 21 (under 21), and who goes out on the weekends and drinks 5 or more (4 or more) beers in a sitting on a regular basis. In the space below, please write down three words that you, personally, would (a typical college student might) use to describe that student. These three words can be positive, negative, or neutral.*

The text in parentheses indicates alternate versions of the scenario that I presented to respondents (randomly assigned) to manipulate target gender, target age, and type of evaluation (an individual's own personal evaluation versus a perception of how others would evaluate the target). The parenthetical text describing the number of beers consumed was changed to correspond with target gender, to fit with the commonly accepted definitions of binge drinking (5 or more for males, 4 or more for females).

Two trained raters independently coded the descriptive terms that were provided by the respondents. The raters coded the valence of the words as positive, negative, or neutral (the neutral rating was also applied to words with a valence that was unknown or ambiguous). The raters used Anderson's (1968) Word Likeableness list as a guideline for the ratings when possible. Respondents provided a total of 3,271 words (however, many respondents used many of the same words to describe the binge drinker, thus there were only 676 unique words). Inter-rater reliability was very high for the valence codings;

Kappa=.87. The most commonly reported descriptions can be seen in Table 1, which combines synonymous words that convey the same abstract descriptive meaning (a Merriam-Webster Thesaurus (2006) was used to confirm synonyms).

[Insert Table 1 Here]

The most commonly reported single words in each valence category (positive, negative, and neutral) are listed in Table 2. As shown in both Tables 1 and 2, the most common single word and the most common abstract description were both "normal," followed closely by "fun," "partier," and "social." It is important to note that this investigation was not intended to provide widely generalizable descriptive information, rather it was intended to investigate specific relationships; thus convenience sampling was used rather than a random sampling procedure and, as such, the generalizability of these descriptive results is uncertain.

[Insert Table 2 Here]

The raters coded the term "normal" as neutral; however, considering previous research on social norms and normative pressure in alcohol use among college students (see Borsari and Cary, 2001; and Perkins 2002 for reviews; Beck and Treiman, 1996; Graham, Marks, & Hansen, 1991; Prentice and Miller, 1993), it is possible that college students consider what is "normal" to be positive rather than neutral (i.e. fitting in with the norm). For this reason, I performed subsequent analyses with the term "normal" coded first as neutral, and then re-ran the analyses with "normal" coded as positive.

I investigated the relationship that several predictor variables had with the valence of the social evaluations using Ordinal Logistic Regression. The regression model included main effects for four dummy-coded categorical variables:

- target age (0=under 21, 1=over 21)
- target gender (0=female, 1=male)
- type of evaluation (0=personal, 1=typical other)
- respondent gender (0=female, 1=male)

The model also included main effects for three continuous covariates (respondents' age, self-monitoring score, and typical alcohol consumption), and some two-way interactions of specific interest, which were specified *a priori* (gender by target gender, age by target age, and self-monitoring by type of evaluation).

The outcome variable was ordinal (1=negative, 2=neutral, 3=positive), thus resulting odds ratios indicated the likelihood of a shift upwards in the outcome (from negative to positive) with every unit increase in each predictor (for the binary variables, that represents a shift from the '0' category to the '1' category).

Table 3 shows the results of the analysis. Significant results indicated that male targets were 1.42 times more likely to receive a positive rating than female targets, targets over age 21 were 7.8 times more likely to receive a positive rating than targets under 21, male respondents were 1.35 times more likely to give a positive rating than female respondents, respondents who typically consumed relatively more alcohol gave higher ratings (at an odds ratio of 1.21 per unit increase in consumption on an 11-point scale), and there was a significant age-by-target age interaction; as respondent age increased, evaluations became more negative for targets who were under 21. All other results were nonsignificant. The results were very similar whether the term "normal" was coded as neutral or positive (no differences in significance levels).

[Insert Table 3 Here]

When I included all of the factors listed in Table 3 in the regression model, continuous self-monitoring score did not significantly predict the valence of ratings; however, there was a significant zero-order relationship when tested in isolation using Ordinal Logistic Regression; OR=1.05 (CI=1.02 to 1.07), Wald=15.31, p<.001 (n=2406). This indicated that for every unit increase in self-monitoring score, individuals were 1.05 more likely to report a positive evaluation (which is a significant effect size considering self-monitoring is measured on an 18-point scale). The result was similar with quartile split self-monitoring scores; OR=1.36 (CI=1.10 to 1.68), Wald=8.35, p=.004 (n=1202).

Research Question 6

I tested Research Question 6 (Do high self-monitors, more than low self-monitors, report alcohol consumption that is similar in amount to their perceptions of peers' alcohol consumption?) with the survey question "If you go out drinking with friends, which best describes your own drinking behavior?" with response measured on a 4-point scale. Figure 10 shows the distribution of responses for the question. I removed 399 out of 1988 individuals who indicated "not applicable" from the sample, leaving N=1589. As shown, most people reported drinking about the same as their peers (48.2%) and very few people reported not noticing how much their peers consume (2.0%).

[Insert Figure 10 Here]

I used a Binary Logistic Regression with responses for this item categorized as 0=consuming an amount different from peers/not noticing (n=823), and 1=consuming the same as peers (n=766), with self-monitoring score as the predictor variable, analyzed two ways (continuous and quartile split).

The regression with continuous self-monitoring scores as the predictor was not significant; OR=1.03 (CI=1.00 to 1.06), Wald=2.83, p=.09, (n=1309), but was in the predicted direction; for every unit increase in self-monitoring, the likelihood of consuming the same amount of alcohol as peers slightly (but not significantly) increased by a multiplicative factor of 1.03. The analysis with the self-monitoring quartile split was also not significant; OR=1.29 (CI=0.94 to 1.77), Wald=2.45, p=.12 (n=617)

I also tested this relationship with the questions "How many alcoholic drinks do you *typically* consume while out with your friends?" and "How many alcoholic drinks would you estimate each of *your friends* typically consumes while out with you?" with responses ranging from "1" to "11 or more." I subtracted the reported typical alcohol consumption of peers from the reported typical alcohol consumption of the respondent. This created a difference score ranging from negative numbers (when the respondent claimed to typically consume less than peers) to positive numbers (respondent typically consuming more than peers), with a zero point (indicating an exact match between reported peer and self consumption). 54.4% of the sample reported they consumed less than their peers (877 out of 1611), 36.3% reported consuming the same (585 out of 1611), and only 9.2% reported consuming more than their peers (149 out of 1611).

I used Binary Logistic Regression with the responses for this item dichotomized as 0=mismatched consumption (n=1026), and 1=matched consumption (n=585), and self-monitoring score as the predictor variable, analyzed two ways (continuous and quartile split).

The regression analysis did not show a significant odds ratio with continuous self-monitoring score as the predictor; OR=1.01 (CI=0.97 to 1.04), Wald=.09, p=.76

(n=1332). The result for quartile split was similarly not significant; OR=0.99 (CI=0.71 to 1.37), Wald=.01, p=.93 (n=617)

I also investigated the relationship between continuous self-monitoring scores and reports of peer consumption. OLS regression revealed a significant but small relationship between self-monitoring scores and reports of peer consumption, $R(1345)=.15$, $p<.001$. Thus, higher self-monitoring scores were weakly associated with higher estimates of peer consumption. I also analyzed this relationship using an Analysis of Variance, with quartile split self-monitoring score as the predictor. Results showed that high self-monitors reported significantly higher peer consumption (m=5.68) than did low self-monitors (m=4.72), $F(1, 620)=25.66$, $p<.001$.

Lastly, I investigated the relationship between individuals' self-monitoring scores and their reports of their own consumption. OLS regression revealed a significant relationship between self-monitoring scores and individual's reports of their own consumption, $R(1345)=.20$, $p<.001$. Thus, higher self-monitoring scores were associated with higher estimates of consumption. . I also analyzed this relationship using an Analysis of Variance, with quartile split self-monitoring score as the predictor. Results showed that high self-monitors reported their own consumption (m=4.67) at a significantly higher level than did low self-monitors (m=3.42), $F(1, 627)=35.73$, $p<.001$. This self-monitoring difference in *quantity* of consumption is in addition to my previously-reported difference in *initiation* of consumption (that high self-monitors were more likely to have tried alcohol in the past).

Study 1 Discussion

This study revealed some valuable information about the relationship between self-presentation and self-reports about alcohol consumption. I found that higher self-monitoring scores were associated with a higher likelihood of having tried alcohol in the past. This result fit with past research by Sharp and Getz (1996) showing that self-monitoring status differs among alcohol initiators vs. noninitiators. I theorized that high self-monitors engage in alcohol consumption at least in part for self-presentational reasons (especially the first time alcohol is tried), thus I assumed that low self-monitors are typically less likely to be concerned with self-presentation, and thus less likely to have tried alcohol. The results fit with this interpretation; however, another interpretation is that high self-monitors tend to be more sociable in general (they have more friends and tend to be slightly more extroverted; Snyder, 1987), and because drinking is influenced by peers, a higher proportion of self-monitors are drinkers.

I also found that higher self-monitoring scores were associated with a higher likelihood of having consumed alcohol while alone rather than with others. This result was in the opposite direction of what I anticipated. I theorized that alcohol consumption is at least partially self-presentational, and thus I predicted that high self-monitors would be more motivated by the self-presentational implications of consumption than low self-monitors, and that low self-monitors would be more likely to drink alone without any self-presentational benefits. The results showed that high self-monitors were actually more likely to have drunk alcohol alone. One possible explanation for this result is that high self-monitors perceive alcohol consumption to be more acceptable altogether and they believe others find it more acceptable as well, possibly due in part to the social

norms effect demonstrated in previous research on college students' alcohol use (see Borsari and Cary, 2001; and Perkins 2002 for reviews; Beck and Treiman, 1996; Graham, Marks, & Hansen, 1991; Prentice and Miller, 1993), thus they are more likely find it acceptable to drink alone. This explanation fits with my other findings that high-self-monitors provided slightly more positive evaluations of a college student drinker than did low-self-monitors. Another possibility is that there is social image that may be associated with drinking alone that I am unaware of, but that high self-monitors find desirable.

I found that higher self-monitoring scores were associated with a higher likelihood of noticing peer alcohol consumption. This result fit with previous research showing that high self-monitors are more vigilant of external cues in general. I extended that research to demonstrate that this effect specifically applies to the area of alcohol use and peer influence.

I also found that higher self-monitoring scores were associated with a higher likelihood of reporting using alcohol to influence the opinions of others. I theorized that high self-monitors do indeed use alcohol to influence others' opinions more so than low self-monitors, but I was uncertain whether they would report this honestly, or whether they are even aware of it. Even with my results, we still do not know if high self-monitors are aware that they (reportedly) engage in this behavior more than others, but the results suggested that they do so. I also found that, whereas less than 1% of the sample admitted to using alcohol for self-presentational purposes often, more than 80% reported believing that their alcohol consumption (or abstinence from alcohol consumption) portrays something about their image to other people. This suggests that the vast majority of

respondents report that their alcohol use has self-presentational effects, but they reportedly never or rarely take advantage of that purpose.

I found that higher self-monitoring scores were associated with a slightly higher likelihood of rating a binge-drinking college student positively. I also found that evaluations of the binge-drinker were largely positive overall; the most common descriptions were "normal," "fun," "partier," and "social." Furthermore, the evaluations were affected by several factors including target gender, target age, respondent gender, respondent alcohol use, and respondent age. The specific social images that college students associate with *others'* drinking behavior had not been firmly established in previous research. The results fit with my general proposition that many college students typically find college drinking (even at dangerous binge-drinking levels) to be acceptable and even somewhat positive. Unfortunately, I did not have a non-drinking target with which to compare the overall ratings, and thus the perceptions of binge-drinkers relative to non-drinkers are unknown. It is possible that college students rate most others positively, maybe even more positively than the target in the presented scenario, and thus these results should not be considered evidence of students' approval of binge-drinking in an absolute sense.

An unexpected result that I found when asking individuals about their own alcohol consumption relative to their peers' alcohol consumption was an extremely low percentage of people who reported consuming more than their peers (9.2% using one measure, 10.5% using a second measure). Unless the psychology students in my sample are typically non-drinkers who affiliate with heavy drinkers (which is most likely not the case), it is mathematically impossible for so few people to drink more than their peers.

This finding does, however, fit with previous research showing that college students tend to hold incorrect social norms that others drink more than what they actually consume and that they drink more than the respondent him/herself (Perkins, 2002; Prentice and Miller, 1993). Furthermore, this effect manifested itself here in perceptions of actual friends' consumption rather than levels of generalized "other" college students.

I found that high self-monitors reported higher alcohol consumption and higher peer alcohol consumption than low self-monitors reported. This was an unanticipated result, which raises some questions about the accuracy of these reports; Do high self-monitors really affiliate with individuals who drink more, or do they just perceive peer norms to be higher than what low self-monitors perceive? Do these different perceptions influence high self-monitors to consume more than low self-monitors, or are there true differences in peer consumption that lead to differences in the alcohol use of high and low self-monitors? I investigated some of these questions in Study 2.

An interesting result from Study 1 was that I found no relationship between self-monitoring and self-reported matching of peer alcohol consumption. I used two different strategies to assess whether high self-monitors would report matching peer consumption more so than low self-monitors, and saw non-significant results on both accounts. This non-significant relationship between self-monitoring and matching consumption has several possible explanations; 1) a methodological issue prevented us from detecting a relationship that really exists on a conceptual level, 2) individuals with a high self-presentation motivation actually do not match peer consumption and thus my hypothesis is incorrect, 3) the individuals just do not realize that they do it, or 4) the individuals just do not report that they do it.

This highlights the most important limitation of this study; the reliance on self report measures. Because self-reports can be inaccurate (Nisbett and Wilson, 1977), and because they are sometimes considered to have questionable validity in alcohol research (Del Boca and Darkes, 2003; Boyd and Faden, 2002; Leigh, 1989; Babor, Stephens, and Marlatt, 1987) and in research on self-presentation, specifically (such as in Wolfe, Lennox, and Cutler, 1986), further research was necessary to investigate the conceptual relationship between self-presentation, peer influence, and alcohol consumption without a reliance on self-reports. I conducted Study 2 using behavioral measures to experimentally invesitgate the influence of the variables of interest on actual alcohol consumption *behaviors*.

Study 2 Methods

Participants and Design

Participants for this study were 103 males on the University of Maryland College Park campus, all of whom were age 21 or older. They participated during the 2006 spring semester. Resources allowed for a monetary remuneration of $15 per person for participating. I recruited participants by posting flyers about the paid study around campus and handing out flyers in the Student Union building.

The study used a 2 x 2 x 2 between-participants factorial design: peer alcohol consumption (high or low), and peer attractiveness (high or low) were independent variables, and participant self-monitoring status was a predictor variable (analyzed two ways; continuous and quartile split). The dependent variables were participants' amount of alcohol consumption, participants' self-reported attitudes toward alcohol, and participants' attention to peer consumption (specific operationalizations of these variables

are discussed in greater detail in the Procedure section below). This study was used to test Hypotheses 1 through 4.

Procedure

I recruited individuals with flyers advertising the paid study. I posted flyers in buildings throughout the campus on 5 occasions throughout the spring semester and a Research Assistant handed out flyers to passers-by in the Student Union building on two occasions, near the lunchtime hour. The flyers described the study as an investigation of "situational influences on product evaluations" (this cover story is described in more detail below), and I forewarned potential participants that they may be taste-testing a product containing alcohol (beer, specifically), and that they should not sign up if they were unable or unwilling to drink alcohol for any reason. The flyers stated that male participants age 21 or over were needed at this time and that participants would earn $15 for ½ to 1 hour of participation.

Potential participants expressed interest in signing up for the study by email, as directed in the flyers. The experimenter then sent a reply email providing open times and the location for the study, as well as re-stating that the purpose was to investigate situational influences on product evaluations, and stating that participants would taste-test beer, fill out some questionnaires, and engage in a couple of other small tasks. The experimenter's email also assured potential participants that we would provide much more information when they arrived to participate as well as a detailed Informed Consent form, which they would need to read and sign upon arrival. The email also gave interested individuals an opportunity to have any questions resolved before signing up to participate.

The last paragraph of the recruitment email said the following: “We have enough women signed up for our study already, but we are looking for more males, so if you have any friends who might want to participate, please let them know about the study too. They must be age 21 or over and willing to taste-test beer, among a couple of other small tasks. The study takes between a half-hour and an hour, and the pay is $15.” The purpose of this was two-fold; first, I needed to recruit male participants only, but I needed them to perceive that women were participating also (the reason for this will become clear when the cover story is detailed below); second, I employed a type of snowball sampling procedure, asking potential participants to refer the study to their friends, to maximize the sample size. This type of convenience sampling, with participants recruiting other participants *before* participating, was ideal for this study because the “recruiters” at that point were blind to important details of the study and could not reveal any details that would be revealed in the post-experiment debriefing, and thus corruption of results was precluded.

When a male participant was scheduled and arrived at the lab for the study, he completed the Self-Monitoring Scale in the hallway, where it was presented in a packet of surveys as a non-relevant time-filler task while the participant waited to begin the experiment. The participant’s score on the self-monitoring scale served as the operationalization of self-presentational concern. Thus, this was a measured variable, operationally defined with high and low self-monitors constituting the two levels of high and low self-presentational concern/motivation, respectively.

The experimenter allowed approximately three minutes for the participant to complete the self-monitoring scale, and then led the participant into the lab room, asked

him to sit at a desk, obtained informed consent, and provided the cover story for the study, presenting the study as an investigation of "the influence of music on taste-testing evaluations." The study script, detailing the experimenter's instruction and the cover story, is shown in Appendix C. The cover story was necessary to mask the true purpose of the study and prevent corruption of the results. The experimenter told the participant that he would be taste-testing beer, and the experimenter mentioned that there were certain university dispensations that allow the study to take place on campus. He explained to the participant that we were interested in the effects that music may have on ratings of beer "because beer is a product that is often consumed in setting in which music is played, such as bars, clubs, etc, and there may be a real-world relationship between the two, which merits investigation."

Due to ethical constraints and safety issues, a non-alcoholic beer was used in this study as the item to be tasted, and was presented to the participants as a beer containing alcohol. I used Clausthaler Golden Amber non-alcoholic beer, which is a multiple award-winning German beer (clausthaler.com), is ranked first among non-alcoholic brands on several beer enthusiast websites (see beeradvocate.com), and has been used in previous alcohol use research (Martin, Earleywine, & Young, 1990; Palfai and Ostafin, 2002). Non-alcoholic beer contains less than 0.5% alcohol and is deemed legally permissible for individuals above and below legal drinking age to purchase and consume on the University of Maryland campus by both the University and the Prince George's County Board of License Commissioners. I worked from the assumption that a finding with non-alcoholic beer would generalize to true alcohol consumption, if effectively presented to the participants as real beer. When the experimenter presented the non-alcoholic beer as

real beer, he described it as an obscure brand from a German Brewery in order to reduce any suspicions about subtle differences in the taste from real beer that the participant has consumed in the past. I also used a Golden Amber beer because I assumed it would be less recognizable by participants. Previous research suggests that non-alcoholic beer may be more effective than other placebos (Martin, Earleywine, & Young, 1990; Palfai and Ostafin, 2002).

Before the taste-testing task, the experimenter obtained a Breath Alcohol Concentration (BAC) measurement on the participant to ensure that no-one participated in the study who had any measurable alcohol already in his system. The experimenter used an *Intoxilyzer 400PA* Portable Breath Alcohol Tester (PBT), manufactured by CMI, Incorporated (316 E. 9th St., Owensboro, KY 42303), which tests the BAC by use of an electrochemical fuel cell which generates an electrical current in response to alcohol vapor in the deep-lung breath. This is the same device used by many police agencies nationwide for field sobriety tests. The participant provided the breath sample by blowing into a disposable mouthpiece connected to the PBT. Results in the PBT were ready within seconds and the PBT was programmed to display the alcohol level immediately. The PBT unit was calibrated by a trained technician (using a gas cylinder) once a month to ensure proper operation and accuracy.

On the desk at which the participant was seated was a computer screen and a digital video camera aimed toward the participant. On the computer screen was a high-resolution digital webcam video of a female college student. Although this was presented to the participant as a live video feed of a student in another lab room, simultaneously participating in the same study, it was actually a pre-recorded video of a female research

assistant, whose behavior was scripted. In the video, the female student appeared to be receiving instructions from another experimenter.

The experimenter told the participant that he and the student who was visible on the computer would both be engaging in the same task, and were both in a "control condition" and thus would not have music played during their sessions. The experimenter told the participant that he was connected via webcam to the other person to "somewhat increase the realism of the situation, because people usually do not drink in complete isolation. But we also need to maintain control over interactions, thus you're not interacting freely in a room together." The experimenter explained that the webcam images were recorded on the computer, but that these recording would be kept completely confidential, kept on one password-protected computer, never shared with any other individuals, and destroyed at the conclusion of the study's data collection that semester.

The experimenter told the participant that he would move to another room and engage in a discussion about the taste-tested product with the female student once the taste testing was complete. The experimenter told him that they would discuss their ratings of the product and their general likes and dislikes, and explained that we do this because we want to get free-format information from a casual discussion between both participants regarding their ratings of the product. This was to indicate to the participant that his behavior could have consequences for his subsequent interaction with the peer, and to reinforce that the peer would know how much beer he consumed. The experimenter then told the participant that once he is finished with the taste test, he should stand up and approach the experimenter to let him know.

Two clear, 12-ounce plastic cups full of the non-alcoholic beer (approximately 355 milliliters in each) were placed on the desk in front of the participant and two similar full cups were visible in the webcam video, sitting in front of the female student. Peer consumption was manipulated using different pre-recordings of the female student's drinking behavior: In the LOW peer consumption condition, the female student in the video consumed only a few small sips of the beer (mean=33.75ml out of a total of 710ml) and then stood up indicating that she was finished with the taste test. In the HIGH peer consumption condition, the female consumed the entire first cup of beer and two-thirds of the second cup (mean=501.25ml) before standing up to indicate that she was finished. This was a relatively subtle manipulation of peer influence used to help ensure a non-reactive measurement of its impact.

Peer attractiveness was manipulated in the video as well. A relatively attractive female research assistant wore appealing clothing, make-up, and hairstyle in the high attractiveness condition. She wore baggy, unappealing clothing, no make-up, and a relatively unattractive, messy hairstyle in the low attractiveness condition. The effectiveness of this manipulation was assessed with pilot testing prior to the study (the results of which are described in a separate section below). To further investigate the effectiveness of the peer attractiveness manipulation, I also included a manipulation check in the form of a self-report question at the end of the study.

Before the participant began the beer-tasting task, the experimenter conveyed that he was not concerned with how much the participant consumed, saying "you can drink as much or as little as you'd like, and then let me know when you're ready to move on and I'll have a survey for you to answer a few questions about it." This was to help eliminate

any multiple audience problems in the study (in which the participant may have wanted to portray contrasting images to the experimenter and the female student).

Once the participant indicated that he was finished with the consumption task, the experimenter administered the Taste-Testing questionnaire (see Appendix D) and advised the participant that his responses on the questionnaire, along with the responses given by the other student on the same questionnaire, would be the basis of the informal discussion in the peer communication portion of the study. This was done in order to ensure that the participant believed that his responses on the questionnaire would be seen by female student.

The experimenter then administered the Alcohol Attitudes survey (see Appendix E), and again stated that the responses would be seen by the other participant. He also mentioned that "people's attitudes vary over time, but on this questionnaire we're interested in your attitudes right now, not past or future attitudes" in order to reduce any reluctance in the participant to adjust his self-reported attitudes to more closely resemble the attitudes of the female peer (which may have conflicted with some attitudes he had previously held about alcohol use). In other words, I attempted to provide the participant with more room to adjust his self-reported attitudes. Participants' responses on this questionnaire served as the operationalization of the alcohol-related attitudes dependent variable.

The attitudes measure allowed for an extended conceptual replication of Shute's (1975) study described earlier, in which he found that participants portrayed more positive drug-related attitudes when peer attitudes were positive and more negative drug-related attitudes when peer attitudes were negative. Instead of explicitly manipulating the

expression of peer attitudes, the current study relied on the assumption that the participant would infer peer attitudes from peer consumption. Based on classic research on attributions in general (see Jones & Davis, 1965; Jones & Harris, 1967; Ross, 1977), and attributions about peer approval of alcohol specifically (Borsari & Carey, 2003), this assumption appeared to be reasonable.

Finally, the experimenter asked the participant to complete one last questionnaire, and emphasized that it was completely confidential and the responses would not be revealed to the discussion partner. This final questionnaire contained manipulation check questions to assess the participant's perception of the peer consumption and peer attractiveness, and a suspicion check question to assess whether the participant believed the cover story and explanations presented for the study (see Appendix F).

After the final questionnaire was completed, the experimenter fully debriefed the participant: He explained the full purpose of the study, why the purpose was not revealed, and why a confederate and deception were necessary (see Appendix G). The experimenter administered a second Breath Alcohol Concentration (BAC) test on the participant, as was done at the beginning of the study using the *Intoxilyzer 400PA* breathalyzer, to show the participant that he had no appreciable amount of alcohol in his body. This was done because, although not definitive, some research has shown that individual's may behave socially as if they were drunk simply because of consuming an alcohol placebo (for a review, see Hull and Bond, 1986), and I wanted to combat the possibility of a participant falsely perceiving any level of intoxication and behaving in an intoxicated manner or engaging in potentially risky behavior after leaving the study. The experimenter also explained this kind of placebo effect to the participant to help assure

the participant that he was indeed not intoxicated, and emphasized the participant's responsibility for his own behavior once he left the lab (because placebo effects are theorized to result from attributional motivations in which individuals feel less inhibited because they can attribute behaviors to alcohol consumption). Many studies with alcohol placebos simply use controlled settings and a thorough debriefing in avoiding this type of post-experimental problem; however, my expectation was that the extra steps I took offered a more thorough defense. The experimenter then obtained a promise from the participant not to reveal any details of the study to any potential future participants.

The experimenter measured the participant's total amount of beer consumed from the plastic cups, which served as the operationalization of participant alcohol consumption. Consumption was measured in milliliters, in increments of 5ml, using a graduated cylinder. Because beer tends to foam upon pouring, the procedures to transfer the beer to the graduated cylinders was standardized across conditions; the cylinder was held at a 45% angle while pouring the beer, and the experimenter waited 60 seconds after pouring to measure the amount. With the cover story and procedural design of the study, the amount consumed by the participants was a subtle and non-reactive behavioral measure used to add insights beyond what could be obtained using self-reports.

Two trained research assistants later viewed the video recordings of the participants engaging in the taste-testing task and measured in seconds the amount of time each participant spent looking at the image of the female student on the computer monitor. This measure of gaze duration served as an operationalization of the amount of attention paid to peer consumption.

Pilot Testing

To assess the effectiveness of the attractiveness manipulation before beginning the study, I performed pilot testing with a convenience sample of 43 male university students enrolled in a Statistical Methods in Psychology course. Students received extra credit for participating. Each student anonymously and voluntarily viewed four still images of one of the female confederates, taken from the video segments, in either the attractive condition or the unattractive condition. The student then provided an attractiveness rating of that confederate on an 11-point, non-numerical scale, weighted with the following anchors; very unattractive, slightly below average, average, slightly above average, very attractive. Each student then viewed four images of the other confederate in the opposite attractiveness condition of the first confederate, and rated that confederate's attractiveness. The order of presentation was fully counterbalanced and students were randomly assigned. With each of 43 students rating two conditions, the n-size was 86. Attractiveness (high vs. low), Order of Presentation (first vs. second), and Confederate (Laura vs. Dianna), were included as independent variables in a 2 x 2 x 2 factorial Analysis of Variance.

I found a significant main effect for attractiveness, $F(1, 78)=25.63$, $p<.001$; with images from the attractive condition receiving a higher mean rating ($M=8.74$) than the unattractive condition ($M=7.09$). I also found a significant main effect for Confederate, $F(1, 78)=6.09$, $p=.02$; with one confederate, Laura, receiving a higher mean rating ($M=8.32$) than the other confederate, Dianna ($M=7.51$).

Pilot testing with the first 5 people who signed up for the study served as a rehearsal for the experimenter and elicited detailed feedback from those individuals about

the procedures. The feedback that was provided confirmed that the non-alcoholic beer was a convincing placebo, the instructions were clear, the cover story was believable, and that the reasons for the design of the study were understood and appreciated. I made some slight changes to the script to enhance the plausibility of the cover story before full data collection began; for example, I told participants that the female participant was participating in a room on another hallway because one pilot-testing participant thought it was odd that he did not see her in the hallway while waiting for the study to begin. I also added a line asking participants not to try to gesture or communicate with the other participant by webcam because it became obvious that students would do try to communicate without such an instruction.

Study 2 Results

Sample Characteristics

A total of 110 individuals participated in the study; however, I eliminated 7 participants from the sample, leaving N=103. I removed three participants because they determined that the beer was non-alcoholic during the taste-testing task. Four others expressed that they thought it was non-alcoholic, but I left them in the sample because two stated they did not begin to suspect it until after the tasting task, and the other two expressed only a slight suspicion during the debriefing (i.e. “yeah, I thought it might be”), not during the suspicion check, so it was unclear whether this was a true suspicion or just hindsight bias. Two participants indicated suspicions that the study was about how the female participant in the video would influence their drinking, so I removed them from the sample. One participant, whom I also eliminated from the sample, indicated that he did not believe the female participant in the video was really participating live because he

waved and she did not wave back (this was because, for that participant, the experimenter forgot the line in the script asking the participant not to gesture, which was the only occurrence of that mistake). One participant registered a positive BAC reading of .03 upon arrival (below the legal limit of .08) and thus the experimenter told him to take only a small sip of the beer to evaluate it, and I removed him from the sample.

Figure 11 shows the racial composition of the sample. The majority of participants were Caucasian (65%), virtually the same as in study 1. Figure 12 shows the age distribution of the sample. The mean age was 22.9 years; however, there were three outliers over the age of 35 who inflated the mean. Figure 13 shows the class standing of the participants. The vast majority were Juniors or Seniors (82.4%).

[Insert Figures 11, 12, and 13 Here]

Whereas 96.1% of the sample self-reported as heterosexual, four participants reported they were homosexual. I left them in the sample because the hypothesized relationships should hold true across different types of peer interaction, not just an opposite sex attraction. Similarly, I left in graduate students, non-students, older individuals, and individuals in romantic relationships because, although the study was targeted primarily toward a different group, the conceptual relationship among the variables should hold true across different types of people, not just young, straight, single college students.

Figure 14 shows the self-monitoring distribution of the sample. The mean self-monitoring score was 11.51, the median was 11. For subsequent analyses, I used continuous self-monitoring scores and also performed a quartile split (at scores 9 and 14, inclusive).

[Insert Figure 14 Here]

Figure 15 shows the grouped frequency of participants' beer consumption, which ranged from 45 milliliters to 705 milliliters (approximately 1.5 to 23.8 ounces). The mean amount of consumption was 463.9ml; however, as shown in the figure, there was a negative skew with an unexpectedly large number of individuals consuming the full amount of beer from both cups (individuals who drank 675ml or more were conceptualized as drinking the full amount, as the minimal leftover amount for them measured from both cups typically summed to about 5-35ml; or typically about 1oz or less). There were 30 out of 103 individuals who consumed the full amount.

[Insert Figure 15 Here]

Hypotheses 1

To test Hypotheses 1 (high self-monitors will match the alcohol consumption behaviors of their peers more so than low self-monitors), I performed a univariate analysis, using the General Linear Model (GLM) procedure for analysis of variance (ANOVA)/analysis of covariance(ANCOVA). Peer consumption (high vs. low), and peer attractiveness (high vs. low) were independent variables, self-monitoring score was a predictor variable (analyzed two ways; continuous and quartile split), and participants' beer consumption was the dependent variable. Despite the skew in the outcome measure, I chose the traditional GLM approach because ANOVA/ANCOVA are robust against violations of their assumptions, they allow a model that includes interactions between continuous and discrete variables, and the output is more intuitive than analyses with outcome transformations (as discussed at the end of the Results section below, I

performed many variations on the analyses to verify the results and they uniformly produced a similar pattern).

The analysis with continuous self-monitoring score showed only a marginally significant self-monitoring by peer consumption interaction; $F(1, 95)=2.79$, $p=.09$; however, analyses with quartile split self-monitoring did show the interaction to be significant; $F(1, 49)=4.26$, $p=.04$. Figure 16 shows the interaction with continuous self-monitoring scores as the predictor, and Figure 17 shows the means from the quartile split analysis. As shown in both figures, the high self-monitors showed a much bigger difference in consumption in the high and low peer consumption conditions, while the difference in consumption was small for low self-monitors.

[Insert Figures 16 and 17 Here]

Analyses of simple effects for the quartile split analysis showed that for high self-monitors, the means in the high and low peer consumption conditions differed significantly in the predicted direction ($F(1, 27)=5.32$, $p=.03$), but the means did not differ for low self-monitors ($F(1, 26)=0.06$, $p=.81$). The pattern of means suggests that the consumption of high self-monitors differed in the high and low peer consumption conditions, while that of low self-monitors did not. This reflected more matching of peer consumption among high self-monitors than low self-monitors. Hypothesis 1 was supported.

Although I interpreted the significant two-way interaction as the higher-order meaningful relationship, it is interesting to note that the analysis with continuous self-monitoring score also revealed an unexpected significant main effect for self-monitoring; $F(1,95)=7.92$, $p=.006$. Higher self-monitoring scores were associated with higher levels

of consumption. A zero-order correlation confirmed a positive linear relationship between continuous self-monitoring scores and participants' beer consumption, r(103)=.19, p=.05. The relationship is graphed in Figure 18.

[Insert Figure 18 Here]

The ANOVA with quartile split self-monitoring also revealed the significant main effect for self-monitoring, F(1, 49)=6.78, p=.01); with high self-monitors having a higher mean consumption (m=543.1ml) than that of low self-monitors (m=404.7ml).

Hypotheses 2

I tested Hypothesis 2 (individuals will match the alcohol consumption behavior of an attractive peer more so than that of an unattractive peer, and this effect will be greater for high self-monitors than for low self-monitors) using the same GLM univariate analysis that was used for the last hypothesis. The test of the two-way peer attractiveness by peer consumption interaction and the test for the three-way interaction among all of the independent variables served as the tests for this hypothesis.

The ANOVA with continuous self-monitoring score did not reveal a significant peer attractiveness by peer consumption interaction; F(1,95)=1.54, p=.22. There was no significant three-way self-monitoring by peer attractiveness by peer consumption interaction either; F(1,95)=1.66, p=.20. Furthermore, there was no significant main effect for peer attractiveness, (F(1, 95)=1.56, p=.21). The results were similarly nonsignificant for the quartile split self-monitoring analysis. Hypothesis 2 was not supported.

Due to the nonsignificant findings, I also performed an internal analysis, replacing the manipulated peer attractiveness variable with continuous attractiveness ratings measured using a manipulation check question. The analysis again revealed

nonsignificant findings for the peer attractiveness by peer consumption interaction; F(1,95)=1.40, p=.24. There was, again, no significant three-way self-monitoring by peer attractiveness by peer consumption interaction; F(1,95)=1.17, p=.28. Furthermore, there was no significant main effect for peer attractiveness, (F(1, 95)=1.29, p=.26). The results were similarly nonsignificant for the internal analysis with quartile split self-monitoring scores.

Hypotheses 3

To test hypothesis 3 (High self-monitors will adjust their alcohol-relevant attitudes to match the attitudes that they perceive a peer to hold, more so than will low self-monitors), I conducted a univariate analysis using peer consumption (high vs. low) and peer attractiveness (high vs. low) as independent variables, self-monitoring score as a predictor variable (continuous and quartile split), and participants' alcohol-related attitudes as the dependent variable. I measured participants' attitudes using the questionnaire in Appendix E. I summed the eight items (each with a 7-point response scale) to form an overall score indicating the participants' overall alcohol-relevant attitudes. The mean was 32.9 on a scale with a range from 7 to 56 (with a higher number indicated more positive attitudes toward alcohol consumption). The grouped frequency distribution of scores on the measure is shown in Figure 19.

[Insert Figure 19 Here]

The analysis with continuous self-monitoring scores revealed only an unexpected significant main effect for self-monitoring, F(1, 95)=11.78, p<.001). A zero-order correlation confirmed a positive linear relationship between continuous self-monitoring scores and alcohol attitudes, r(103)=.33, p<.001. The relationship is graphed in Figure 20.

[Insert Figure 20 Here]

The same significant pattern (and the same nonsignificant findings for other variables) emerged for the quartile split analysis; $F(1, 49)=9.19$, $p=.004$). High self-monitors had significantly more positive attitudes toward alcohol consumption ($m=42.4$) than low self-monitors ($m=36.2$). With the nonsignificant two-way self-monitoring by peer influence interaction, the hypothesis was not supported.

Hypotheses 4

To test hypothesis 4 (High self-monitors will attend more to the alcohol consumption behaviors of a peer, than will low self-monitors), I calculated a zero-order Pearson's correlation between participants' self-monitoring score and their gaze duration (i.e. the amount of time spent looking at the peer confederate during the tasting task).

Gaze duration was measured (in seconds) by two trained data coders who analyzed videotapes of participants recorded during the study. The trained raters coded the videos for the number of times the participants looked at the image of the female confederate who was shown on their computer screen. Any glance that was one second or less was coded as a 1-second glance, any look at the screen that lasted more than one second was coded as a stare and the duration of each stare was recorded in seconds. Participants were coded from the time they returned to their seat from taking their BAC reading (which was when they began the taste-testing task) to when they stood up to indicate that they were finished with the task. Inter-rater reliability was very high for the gaze duration codings, $r(99)=.97$, $p<.001$ (the n-size was 99 due to a video malfunction for 4 out of 103 total participants). I averaged the two coder's ratings to create the outcome measure.

The average time it took individuals to complete the taste-testing task was 3min 52sec (the average time that the confederates took in their videos was 3min 23sec). Individuals spent an average of 28.9 seconds looking at the peer confederate during the tasting task). Figure 21 shows the grouped frequency distribution of gaze duration. Most participants had very brief looking times but a few participants had very long times that positively skewed the distribution.

[Insert Figure 21 Here]

The correlation between self-monitoring and gaze duration was significant, but in the direction opposite of the prediction, $r(99)=-.22$, $p=.03$. The relationship is shown in Figure 22. Because the distribution for gaze time was somewhat skewed, Kendall's Tau was also computed, which is a non-parametric correlation statistic. It showed a weaker negative relationship between the variables that was marginally significant, $\tau(99)=-.13$, $p=.08$. Individuals scoring higher on the self-monitoring scale tended to spend slightly less time looking at the peer confederate. The hypothesis was not supported.

[Insert Figure 22 Here]

I also assessed whether peer attractiveness had an effect on gaze duration using ANOVA. The results were nonsignificant ($F(1, 97)=1.96$, $p=.17$), indicating that there were no differences in the amount of time participants looked at the peer in the attractive peer condition and the unattractive condition.

Manipulation Checks

I used ANOVA to analyze responses to the manipulation check questions. To check the peer attractiveness manipulation, I asked participants on the post-task

questionnaire, “Although it will NOT be revealed to your discussion partner, please indicate how physically attractive you perceive your partner to be.” Responses were measured on a 10-point scale, ranging from “extremely unattractive” to “extremely attractive.” As expected, the ANOVA revealed a significant main effect for peer attractiveness condition, $F(1, 101)=9.18$, $p=.003$. The mean rating for the high attractiveness condition ($m=7.37$) was greater than the mean for the low attractiveness condition ($m=6.47$). This indicated that the manipulation was effective, but the mean difference was not huge.

To check the peer consumption manipulation I asked participants, “Please estimate on the following 10-point scale how much of the beer YOUR PARTNER drank from the cup.” Responses ranged from “very little beer” to “a lot of the beer.” An ANOVA revealed a significant effect for peer consumption, $F(1, 100)=293.49$, $p<.001$. Participants estimated peer consumption as much higher in the high consumption condition ($m=7.13$) than in the low consumption condition ($m=2.50$). I also examined the relationship between self-monitoring and estimates of peer consumption. An analysis was significant for quartile split self-monitoring scores, $F(1, 52)=4.24$, $p=.044$. High self-monitors showed higher mean peer consumption estimates ($m=5.41$) than low self-monitors ($m=4.54$).

Before the consumption estimation question, I also asked participants “although it will NOT be revealed to your discussion partner, did you happen to notice how much beer your partner drank from his/her cup?” Only 7.8% of the sample reported that they did not notice the peer’s consumption. A Binary Logistic Regression revealed that the likelihood of noticing did not vary by continuous self-monitoring score, OR=1.13,

Wald=.96 (CI=0.89 to 1.44), p=.328 (n=102). The results were also not significant when using quartile split self-monitoring score. Any self-monitoring difference in noticing may have been suppressed by the strong salience of peer consumption created by my experimental situation (i.e. the peer consumption was so obvious that most participants noticed).

An analysis of the indirect peer attitudes manipulation used the following item with a 10-point response scale: "please PREDICT how positive or negative you think your PARTNER'S attitudes might be toward alcohol use (please answer even if you feel like you do not have a valid basis for the prediction)." An ANOVA revealed a significant peer consumption main effect ($F(1, 101)=19.03$, $p<.001$), with people inferring more positive peer attitudes in the high peer consumption condition (m=7.67) versus the low consumption condition (m=6.45). I also examined the relationship between self-monitoring and estimates of peer attitudes. An analysis was marginally significant for quartile split self-monitoring scores ($F(1, 53)=2.59$, $p=.10$), with high self-monitors inferring slightly more positive peer attitudes (m=7.31) than low self-monitors (m=6.71). The self-monitoring by peer consumption interaction was not significant.

Other Results

As mentioned, when investigating Hypothesis 1, I found an unexpectedly large number of individuals consuming the full amount of beer from both cups (30 out of 103). These individuals tended to "chug" the full amount of beer regardless of the experimental situation, which could have suppressed the effects I was investigating. I re-analyzed the data (to further test Hypotheses 1) with individuals who drank all of the beer

("chuggers") filtered out of the dataset (leaving N=73). This normalized the consumption distribution, however with the smaller n-size and a great deal of error variance across scores on the continuous self-monitoring scale, the two-way self-monitoring by peer consumption interaction was not significant; F(1, 65)=.02, p=.96..,

The quartile split analysis showed similar results as those reported for the original test of Hypothesis 1; however, power was reduced and the effects were not statistically significant, F(1, 34)=1.50, p=.23). Figure 23 shows the means for the analysis. High self-monitors showed a slightly greater difference in their means for the high and low peer consumption conditions (they tended to match peer consumption more) than low self-monitors, but not at a statistically significant level.

[Insert Figure 23 Here]

I then assessed "chugger" status by self-monitoring score. A Binary logistic regression, with the outcome coded as 0=non-chugger and 1=chugger regressed on continuous self-monitoring score, revealed that as self-monitoring score increased, there was a significant 1.24 times higher likelihood of being a "chugger" than not; OR=1.24 (CI=1.07 to 1.43), Wald=8.25, p=.004 (n=103).

I also investigated self-reported reasons for drinking within the experimental situation. After collecting data on 20 participants, I determined that it might be valuable to ask participants their own opinions as to why they chose to drink the amount of beer that they drank, so I added that free-format question to the debriefing script. This procedural change only affected experimenter/participant interactions that occurred *after* the experimental data were collected for each participant. It did not change the

standardized procedures before and during the measures of the outcome variables, and thus could not have affected any other outcomes reported in this study.

These self-reports were in line with my assertion that there is a multitude of factors that influence alcohol consumption, but they also re-emphasized the questionable accuracy of self-reports: 20% of the participants reported that the female participant in the video influenced their behavior, but it is important to note that these reports occurred *after* the debriefing, and thus may have been a result of a hindsight bias. Further, it is possible that these reports were a result of demand characteristics, in which, because subjects were aware of the hypothesis at that point, they reported what they believed the experimenter wanted to hear. So, although the reports of these participants fit with my hypothesis, they do not constitute strong evidence of its correctness; at the same time, self-reported reasons that do not align with the hypothesis do not constitute evidence that it is incorrect (see Nisbett & Wilson, 1977).

Some examples of self-reported reasons for drinking that involved peer influence or self-presentation are listed in Table 4. Some examples of other self-reported reasons for drinking, not relevant to self presentation, can be seen in Table 5. Many people appeared caught of guard when asked the question and had to think about it carefully, and some just suggested that they were not sure of the reasons. This again suggests that individuals are sometimes not consciously aware of their motivations for their behavior.

[Insert Tables 4 and 5 Here]

Study 2 Discussion

This study revealed valuable information about the conceptual relationship between self-presentation and alcohol-relevant behaviors beyond what I was able to

uncover in the first study. First, I found that high self-monitors tended to match the beer consumption of a peer more than did low self-monitors, and this relationship held true across several analyses; thus, the central hypothesis of the study was supported. This is an important finding because it extends previous research on peer modeling to show that its effect on consumption is moderated by self-presentational motives. Although the mechanisms underlying this relationship are still uncertain, my theoretical explanation for the result is that individuals who tend to engage in self-presentation (high self-monitors, as compared to low self-monitors) are generally more likely to use a peer's alcohol consumption behaviors as a cue for appropriate behavior, are more attuned to the normative pressure involved with alcohol consumption, and are more motivated to present desirable images to others, and thus are more likely to present themselves as similar to the peer by consuming similar amounts of alcohol.

I did not find support for a variable that I thought was an important mediator, which was attention to peer consumption. Previous research showed that, across several domains, high self-monitors paid more attention to peer behaviors and external cues than did low self-monitors; thus, I hypothesized that this would apply to alcohol consumption behaviors as well. In fact, the opposite occurred in my study. High self-monitors tended to spend less time looking at the peer than did low self-monitors. It is possible that my methodology failed to allow the predicted effect to manifest; for example, looking often or intently at the peer may have been associated with a negative type of image (perhaps "creepy" or "desperate') in my specific experimental situation and thus high self-monitors were less likely to engage in the behavior. The conceptual relationship may occur in situations that allow the behavior to manifest itself more subtly.

Although I did not find the predicted self-monitoring difference in attention, it is still possible that high and low self-monitors differ in the extent to which they *use* peer alcohol consumption information as informative of situational appropriateness or as a cue for desirable behavior. In fact, Gangestad and Snyder's (2000) quantitative review of more than 40 self-monitoring studies revealed that *attention* to others is better explained by a dimension other than self-monitoring and should not be assumed to vary by self-monitoring status, but *sensitivity* to (i.e., *usage* of) the behavioral cues and expectations of other people is clearly associated with self-monitoring. Furthermore, the main consumption findings suggest that this explanation is possible.

Interestingly, I found that self-monitoring was significantly related to consumption. Individuals scoring higher on self-monitoring tended to drink more than those scoring lower on the scale. This is an important empirical finding because previous research has, at best, produced conflicting evidence of self-monitoring's relationship to *self-reports* of drinking (see Sharp and Getz, 1996; Wolfe, Lennox, and Hudiburg, 1983; Wolfe, Lennox, and Cutler, 1986). Self-monitoring has not been investigated in relation to a *behavioral* measure of drinking, and thus an empirically-demonstrated behavioral relationship between self-monitoring and drinking has not been established. My study offers the first evidence of such a relationship.

I also found that self-monitoring was related to estimates of peer consumption. Extreme high self-monitors (defined by a quartile split) estimated peer consumption at higher levels than did extreme low self-monitors. This was another unexpected result, but it fit with the findings from study 1 that showed that high self-monitors reported higher

peer consumption in general (the implications of this are discussed further in the next section).

I did not find that individuals matched the alcohol consumption behavior of an attractive peer more so than that of an unattractive peer, and this did not vary by self-monitoring status. This may be due in part to the manipulation of attractiveness: Although a manipulation check revealed a statistically significant effect of the two conditions on attractiveness ratings, the manipulation could have been even stronger. Before discarding attractiveness as an important variable, an examination with a stronger manipulation should be performed.

I did not find that high self-monitors adjusted their alcohol-relevant attitudes more than low self-monitors to match the attitudes that they perceived a peer to hold. A limitation of this study may have precluded a finding of this effect; I did not directly manipulate peer attitudes in my study at all; the participants had to *infer* them based on peer consumption. I assumed this was likely based on previous attribution research. An analysis of a post-experiment manipulation check question confirmed that the indirect manipulation was effective, but its magnitude was not huge. A direct manipulation of peer attitudes would serve as a better test of this hypothesis.

Another limitation that I discovered in the study *post hoc* was an unexpected ceiling effect with the beer consumption measure. I found that a large number of participants drank the full amount of beer provided to them in the two cups. This "chugging" effect might have suppressed the important interaction effect that I intended to investigate (although I was able to find significant results anyway). There are many possible reasons for participants drinking the full amount (refer to aforementioned Table

5). Perhaps participants consumed a lot because of a multiple audience effect (which would be opposite of what I originally thought when devising the procedures); participants may have thought they were supposed to drink from both cups or maybe even that they should drink the full amount (why else would there be two cups?; one participant reported this reason). Furthermore, participants may have felt challenged to drink both cups in the time allotted. It is possible that something about the experiment could be changed to help remedy this ceiling effect problem. Providing larger quantities of beer in a future replication might help to produce a more normal distribution of this variable.

A possible selection bias may be another limitation of the study. Because I recruited participant with flyers advertising the research as a paid beer-tasting study, the sample is likely largely comprised of individuals who either like beer, or who need money, or both. It is unclear, however, whether these characteristic truly differentiate my sample from most college students. I intentionally created the advertisements this way to pique interest and bring participants into the lab as quickly and in as large numbers as possible, due to a tight timeline for the research. Future research could recruit without including such information, if resources allow for the time that would be needed to bring in participants without such enticements.

The use of non-alcoholic beer for the measure of "alcohol consumption" may be argued as a limitation; however, an assumption of the study was that the finding with non-alcoholic beer would generalize to true alcohol consumption, *if* effectively presented to the participants as real beer. I propose that what was actually "perceived alcohol consumption" in the lab offers an adequate representation of "real alcohol consumption"

if the participants believed that they were drinking real beer. A suspicion check revealed that the presentation was highly effective (only 3 out of 110 participants were confident that the beer was non-alcoholic), and thus offers some indication that the findings are generalizable to real alcohol consumption.

Conclusions and Implications

Implications of Both Studies

The studies reported here add significant insights into college students' alcohol use motivations and the problem of alcohol misuse that is rampant on campuses nationwide. The studies uncovered new interrelationships among variables that have heretofore been largely overlooked in the research within this domain. Thus, a more detailed perspective of college students' alcohol use motivations emerges from this research.

Although a multitude of factors influence drinking behaviors, I was able to isolate and investigate two social-psychological factors (peer influence and self-presentation) that, as I have demonstrated, play an important role in college students' drinking. The results from both studies taken together are "greater than the sum of their parts"; although self-monitoring was not significantly related to *self-reported* matching of peer alcohol consumption in my correlational study, in the experimental study, I found that self-monitoring *was* related to a behavioral measure of consumption matching. So, although individuals did not report that they do it, I found that people do differ in the extent to which they match peer consumption based on self-presentational concern. It is possible that individuals who have a high concern for self-presentation are not explicitly aware of their relatively high position on this trait continuum. Furthermore, it is possible that

individuals tend to match peer consumption without realizing that they do so, or realizing their motivations for doing so. Goffman's (1959) work on self-presentation suggested that individuals can present themselves either in a thoroughly calculating manner or with relative unawareness. Furthermore, classic social-psychological research has shown that people often are not aware of (a) the existence of a stimulus that importantly influences a response, b) the existence of the response, and (c) that the stimulus has affected the response (Nisbett & Wilson, 1977), which may be the case here. I have demonstrated that, despite a possible unawareness, self-presentational motives and peer influence interact to affect college students' alcohol consumption behaviors.

Beyond this important interaction effect, I have additional evidence showing the extensive role of self-presentation in alcohol consumption. For example, I found that high self-monitors (in comparison to low self-monitors) reported drinking more, actually drank more, "chugged" more, estimated peer drinking higher, estimated peer attitudes more positively, rated a binge drinker slightly more positively, reported drinking alone more, reported having tried alcohol in their lifetimes more, reported noticing peer consumption more, and reported using alcohol to influence others' opinions more. From my many findings, it is clear that self-presentation plays a wide-ranging and important role in college students' drinking and should be investigated further.

In reference to the overall theoretical model (Figure 1), I have offered empirical support for the links between the individual characteristic of self-monitoring, the social factor of peer influence, and alcohol consumption; however, the pathway specified in the model was not fully supported– specifically, the mediating influence of attention to peer consumption– thus the mediators of the overall relationship are still uncertain. My

research did not find a self-monitoring relationship with attention to peer consumption, and other research suggests that the influence of others behavior may lie more in a sensitivity to, or cognitive processing of, cues or expectations of others rather than attentional differences (Gangestad and Snyder, 2000). The model may require a reinterpretation of the mediating process. Additionally, I was unable to demonstrate the relationship between peer influence and alcohol attitudes; however, this relationship has been established in previous research (Shute, 1975) and thus should not be discarded from the model too hastily. Further research will be necessary to more fully investigate the interrelationships among the variables within the model.

The results of this research project have several important implications. For example, they shed new light on previous research on the effect of misperceived social norms in alcohol consumption; an effect in which an individual's overestimation of others' drinking (and others' positive attitudes toward drinking) increases the individual's own consumption (see Borsari and Cary, 2001; and Perkins 2002 for reviews; Beck and Treiman, 1996; Graham, Marks, & Hansen, 1991; Prentice and Miller, 1993). Specifically, the relationships investigated in my research suggest that this social norms effect may be exacerbated by a high motivation/concern for self-presentation. I found that high self-monitors tended to have higher estimates of peer consumption than low self-monitors in both studies, and they also estimated peer attitudes more positively. Further, I found that they showed slightly more positive ratings of binge drinkers, and they (across both self-reports and behavioral measures) demonstrated higher consumption of alcohol than low self-monitors. These results fit with the general implication that high self-monitors are more susceptible to social norm effects in alcohol use.

Furthermore, my studies have implications for alcohol use countermeasures widely used on college campuses. The findings hint at the possibility that social-norm based alcohol-prevention strategies may be less effective under conditions of low-self presentation motivation. Although I used a *measure* of self-presentation motivation in my research (i.e. self-monitoring), previous research has shown that such a motivation can be situationally influenced (Martin & Leary, 1999). I assume that the conceptual relationship, showing that peer drinking behavior is less influential for individuals with a low self-presentation motivation (i.e. low self-monitors), would also apply to *situations* in which immediate self-presentation is not a concern. In reference to college social norms campaigns, social norms messages are typically delivered to students on or around campus (in situations where alcohol-relevant self-presentation motivations are relatively low or not cognitively activated), but the messages are very distal once students enter a drinking situation (in which alcohol-relevant self-presentation motivations are heightened and peer influence is much more proximal). An implication may be that these messages should be presented more proximally to high self-presentation situations (such as bars and clubs), and "social host" (peer influence) strategies within these situations may be effective in helping create in-group norms to reduce drinking while out in a social context.

Another implication of the self-presentation/ alcohol consumption relationship is that alcohol counter-advertising may be differentially effective for high and low self-monitors and could possibly be targeted toward each, with image-based alcohol ads targeted toward high self-monitors, and information-based ads targeted more toward low self-monitors, or a combination of ads to appeal to both personality types. Also, the

results may indicate that this advertising can be more effective in the immediate context of drinking situations (such as near bars or clubs, or on radio spots late at night while individuals may be driving to a social event) in which self-presentational motivations are heightened.

Future Directions

The first step for future research would be to strengthen some of the already identified weaknesses in my research to conceptually replicate the findings. The experimental study provided a better test of the consumption-matching hypothesis, thus future research on the relationships among these variables should rely more on behavioral measures than self-reports.

Some simple adjustments to my experimental procedures could provide an improved test of my hypotheses. For example, a future replication should recruit a larger sample to provide more power, should not recruit as a beer drinking study, should make the attractiveness and peer attitudes manipulations stronger, should provide more beer for the taste-test to eliminate possible ceiling effects, and should make the participants' observation of the peer less public/noticeable. Perhaps the most valuable change to my research design would be to manipulate self-presentation motivation rather than measure it. Such a manipulation can be derived from procedures used by Martin and Leary (1999) and would involve challenging relevant social images using a false feedback procedure.

In addition to improvements to my procedures and replications of this conceptual relationship, future research could extend the studies presented here to investigate how other variables interact with the variables that I investigated. For example, it would be valuable to include female participants in a future study. Although I assume that the

results would generalize across individuals, times, and situations (although possibly limited to college situations), some evidence suggests that the peer influence situation may have an even stronger effect for women because women tend to overestimate peer alcohol norms more than men, and because men are more influential models than women (Campo, Brossard, Frazer, Marchell, Lewis, & Talbot, 2003). It would be important to identify any gender differences in the established relationship.

There are a multitude of other variables that are relevant to the conceptual relationship which could be empirically investigated. Some of these variables are the amount and type of peer interaction, the number of peers, the strength of the peer influence, and the strength/extremity of the peer attitudes, the decision to consume any alcohol at all, cognitively activated social images of alcohol consumption (priming effects), salient reference groups, and the self-presentational aspects of seeking alcohol treatment, among others. The conceptual relationships I investigated can help to generate many further relevant hypotheses for future investigations.

This research focused on alcohol use but the hypotheses as well as the theoretical model that was developed could potentially be adapted and applied to other (often harmful) behavioral phenomena, if those behaviors involve social images which some people may think are desirable. Some of these phenomena include smoking cigarettes, consuming other illicit drugs, or engaging in violence, among other things.

This research was a useful first step in generating a larger research program to more fully explore peer influences and the self-presentational motivations that influence college students' alcohol use. My next steps will be to more fully evaluate the interrelationships that I have observed with conceptual and extended replications.

Table 1

Top Ten Listed Evaluative Constructs Describing a College-Aged Binge Drinker

Construct	**Words**	**Valence**	**Total Frequency (Each)**
Normal	(normal, average, typical, regular, college student, student, routine, ordinary)	Neutral	454 (229, 94, 90, 16, 10, 7, 4, 4)
Fun	(fun, funny, fun-loving, having fun)	Positive	266 (201, 26, 25, 14)
Partier	(partier, party girl, party animal, likes to party, party, party boy, party guy, party-goer)	Neutral	259 (200, 26, 18, 5, 3, 3, 2, 2)
Social	(social, outgoing, friendly, sociable)	Positive	246 (152, 68, 21, 5)
Drunk	(drunk, wasted, buzzed, intoxicated)	Neutral	157 (132, 18, 5, 2)
Alcoholic	(alcoholic, lush, addicted, dependent)	Negative	151 (123, 12, 10, 6)
Stupid	(stupid, dumb, foolish, idiot, ignorant, fool)	Negative	99 (70, 13, 6, 5, 3, 2)
Wild/Crazy	(crazy, wild)	Neutral	81 (47, 34)
Irresponsible	(irresponsible, careless, unconcerned)	Negative	73 (50, 18, 5)
Relaxed	(relaxed, easy-going, chill, carefree, relaxing, laid back)	Positive	72 (30, 13, 11, 9, 6, 3
Drinker	(drinker, heavy drinker, binge drinker)	Neutral	59 (48, 7, 4)
Cool	(cool)	Positive	47

Table 2

Top Ten Listed Words in Each valence Category Describing a College-Aged Binge Drinker (and Frequencies)

Positive (853)	**Neutral (1390)**	**Negative (1029)**
Fun (201)	Normal (229)	Alcoholic (123)
Social (152)	Partier (200)	Stupid (70)
Outgoing (68)	Drunk (132)	Irresponsible (50)
Cool (47)	Average (94)	Depressed (23)
Relaxed (30)	Typical (90)	Stressed (23)
Funny (26)	Drinker (48)	Loud (22)
Friendly (21)	Crazy (47)	Careless (18)
Happy (20)	Wild (34)	Immature (16)
Top Ten Total= 565	Top Ten Total=874	Top Ten Total=345

Table 3

Ordinal Logistic Regression Results for Variable Main Effects and Interactions on the Valence of Evaluations of a Target Binge Drinker

Variable	**Odds Ratio**	**Conf. Int.**	**Wald**	**P-value**
Target Gender	1.42	1.12 to 1.81	8.10	.004**
Target Age	7.83	1.22 to 49.95	4.74	.029**
Type of Evaluation	0.64	0.38 to 1.08	2.75	.097
Respondent Gender	1.35	1.06 to 1.72	6.07	.014**
Respondent Age	1.02	0.97 to 1.07	0.62	.432
Respondent Alc. Consumpt.	1.21	1.18 to 1.25	161.87	.001**
Respondent SM Score	0.98	0.94 to 1.01	1.51	.219
Target Gender X Gender	0.82	0.59 to 1.13	1.47	.225
Target Age X Age	0.89	0.81 to 0.98	5.72	.017**
Type of Eval. X SM Score	1.04	0.99 to 1.09	2.87	.090

**Statistically significant (N=2096).

Table 4

Self-Reported Reasons for Drinking in the Experimental Study Relevant to Peer Influence

Relatively High Consumption
"I wasn't planning to drink much but drank a lot because the girl drank a lot"
"I drank a little more than I would normally because girl kept drinking."
"I consumed more than intended because the girl drank a lot"
"I think the girl obviously had an impact on my drinking"
"I wanted to loosen up a bit"
"She was cute; I wanted to beat her in drinking."
Relatively Low Consumption
"I didn't want to down it all in front of the girl"
"I was going to drink it all but other girl stopped drinking"
"I wanted to consume just a little more than she did"
"I stopped drinking because the girl stopped."
"I stopped drinking because the girl finished and I did not want to waste time."

Table 5

Self-Reported Reasons for Drinking in the Experimental Study Not Relevant to Peer Influence

Relatively High Consumption
"It was free beer"
"I was pre-gaming" (drinking cheap/free beer to attain a level of intoxication before going out to a social event were alcoholic beverages are more expensive)
"I was thirsty"
"I didn't want to waste it"
"I wanted to taste a lot to be able to evaluate it"
"I like the taste of beer/this beer"
Relatively Low Consumption
"I have to go somewhere afterwards and didn't want to drink too much"
"I didn't want to get buzzed/drunk"
"It's too early to drink a lot" (an overall analysis of time of day effects did not reveal a significant relationship)
"I usually don't drink much"
"I get headaches when I drink too much"
"I didn't like the taste"

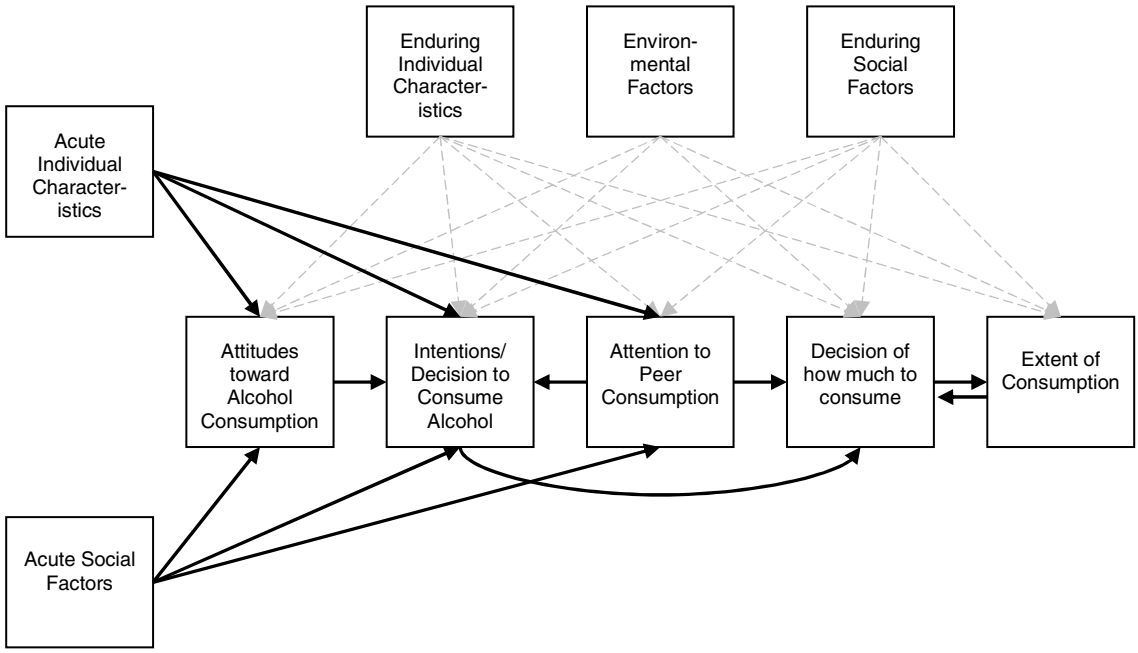

Figure 1. Theoretical model of college students' alcohol consumption

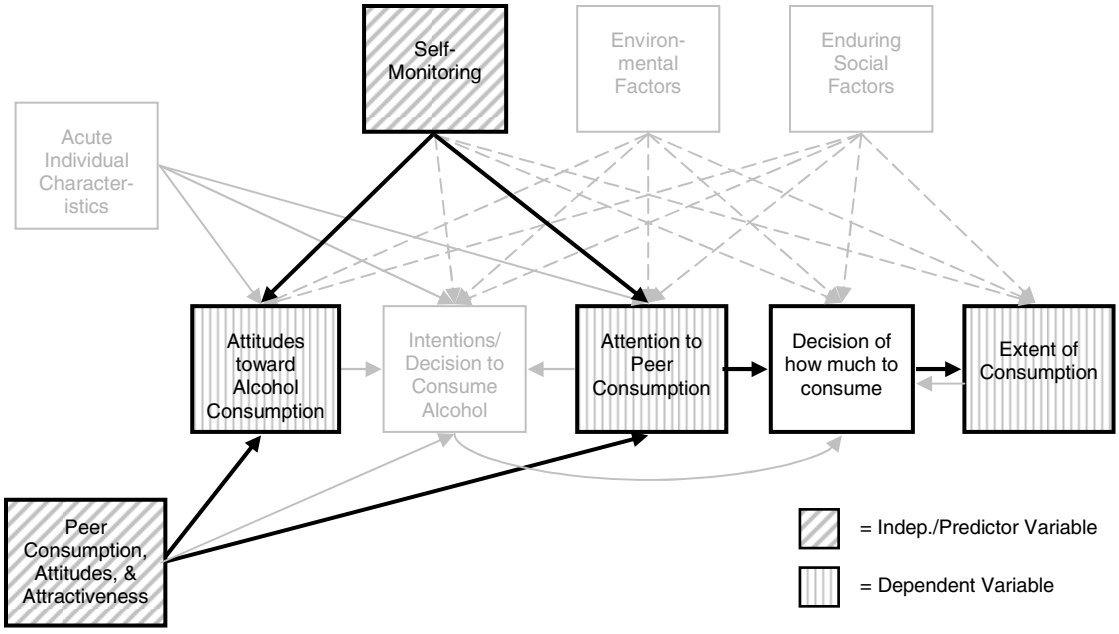

Figure 2. Specific relationships under investigation within my studies.

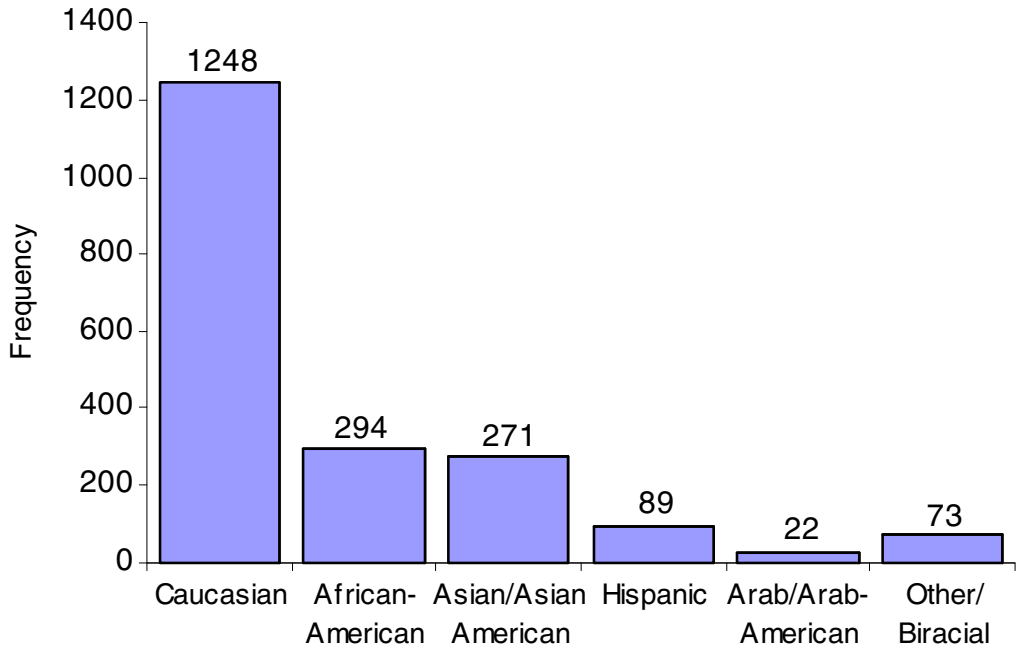

Figure 3. Racial composition of Study 1 sample

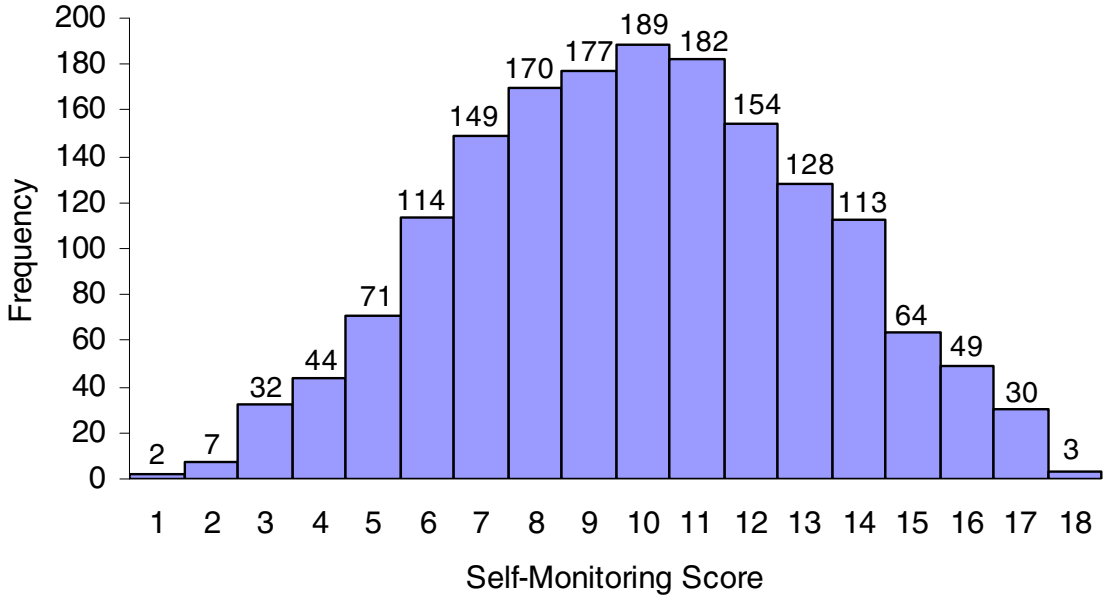

Figure 4. Distribution of scores on the self-monitoring scale

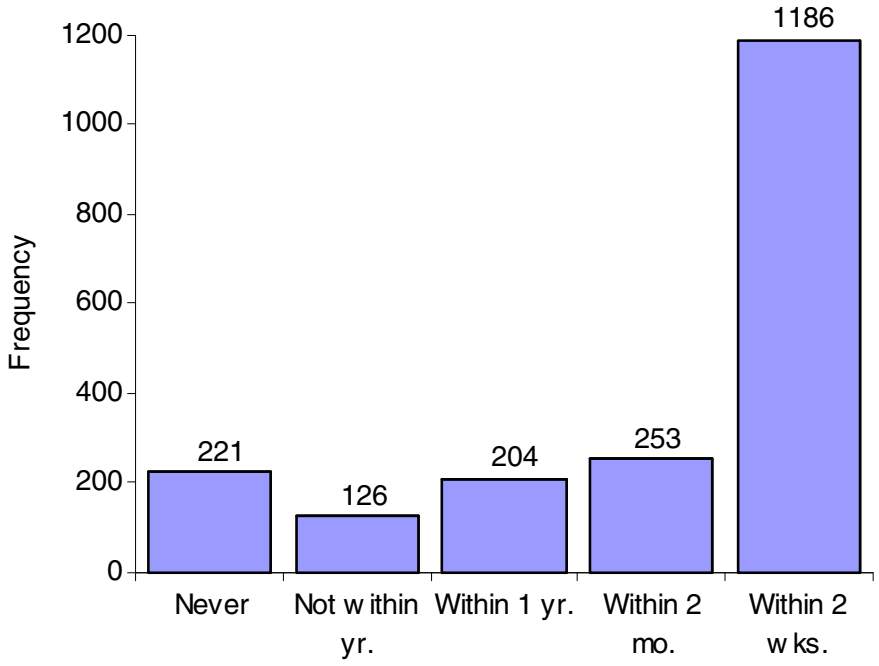

Figure 5. Frequency of responses to "which of the following best describes your alcohol consumption behavior?"

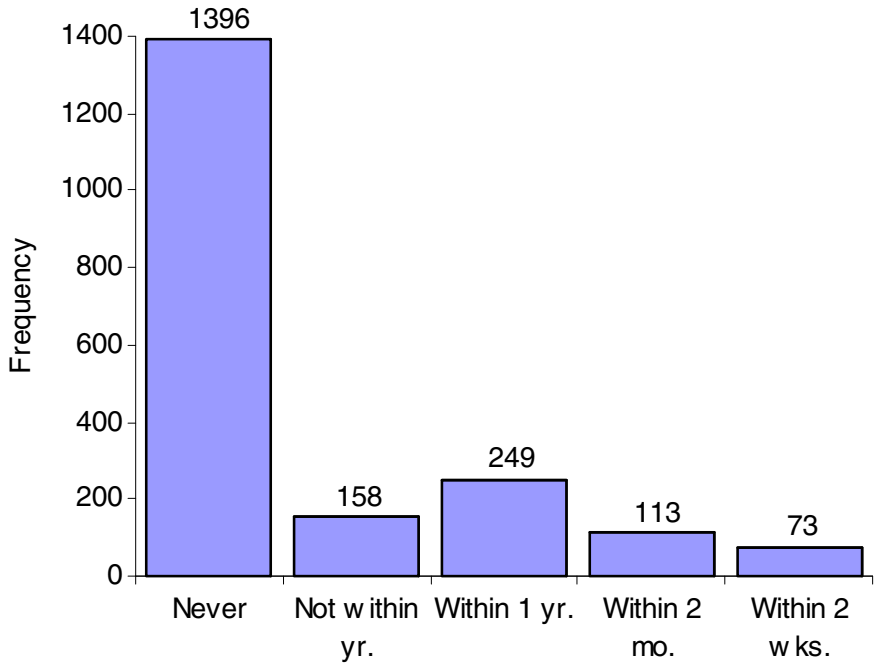

Figure 6. Frequency of responses to "Have you ever consumed alcohol while alone?"

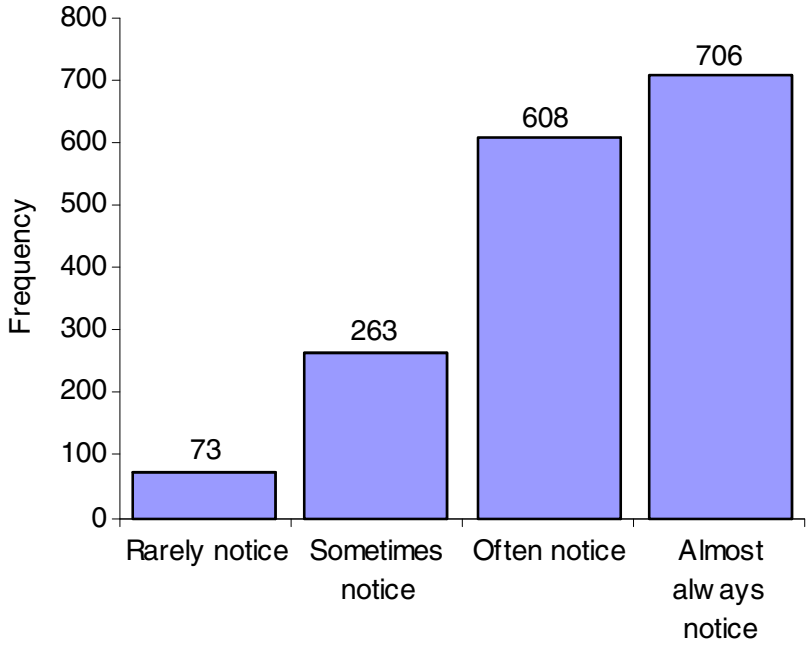

Figure 7. Frequency of responses to "If you go out drinking with friends, which best describes your awareness of your friends' drinking behavior"

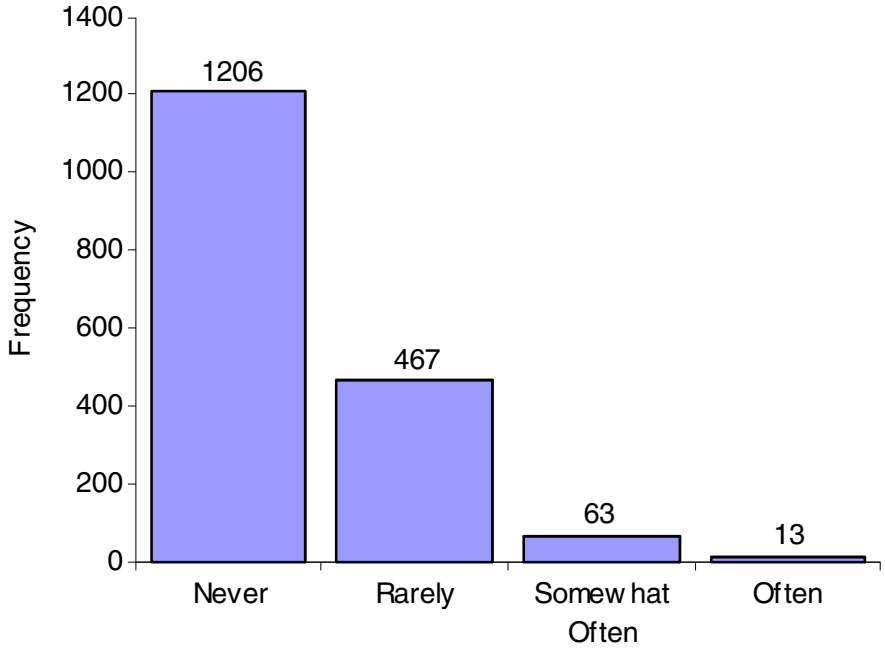

Figure 8. Frequency of responses to "Have you ever consumed alcohol to intentionally influence someone else's opinion of you?"

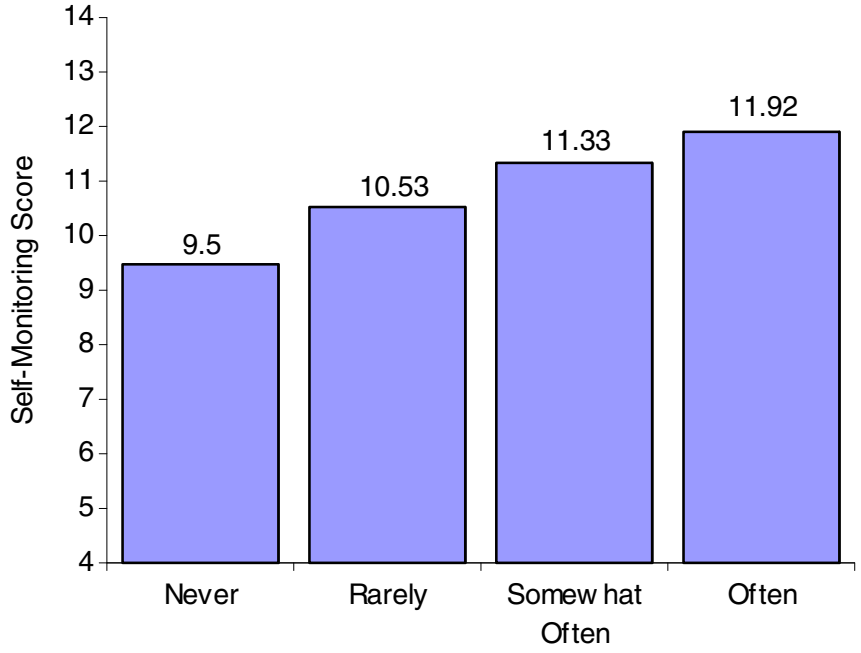

Figure 9. Mean self-monitoring score by using alcohol to influence others' opinions

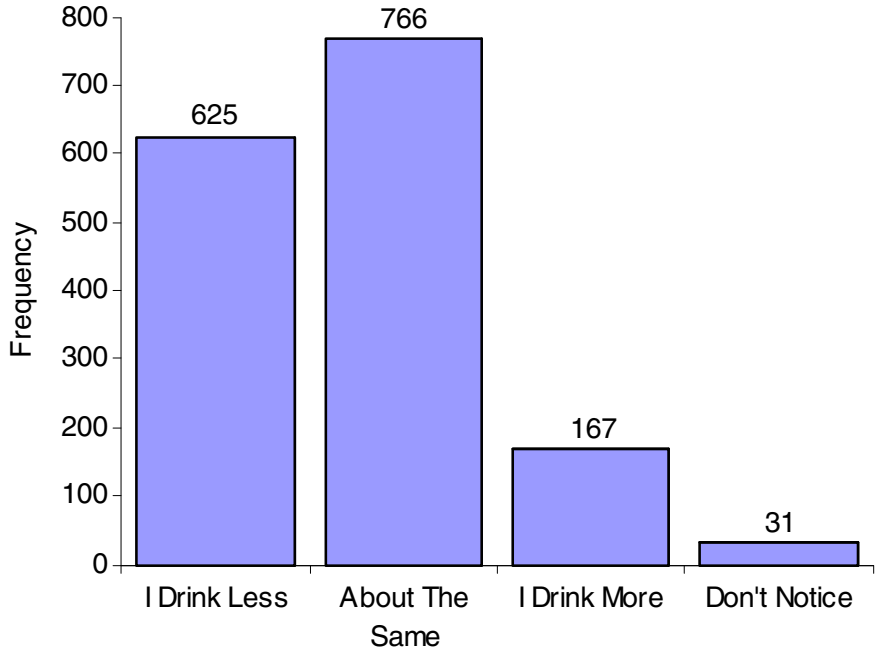

Figure 10. Frequency of responses to "If you go out drinking with friends, which best describes your own drinking behavior?"

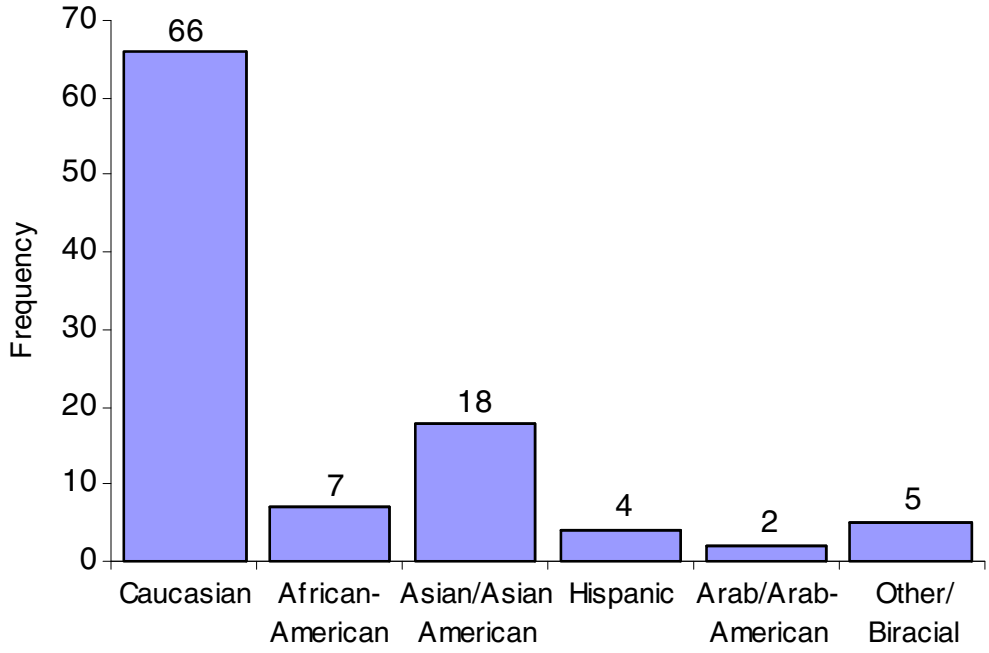

Figure 11. Racial composition of Study 2 sample

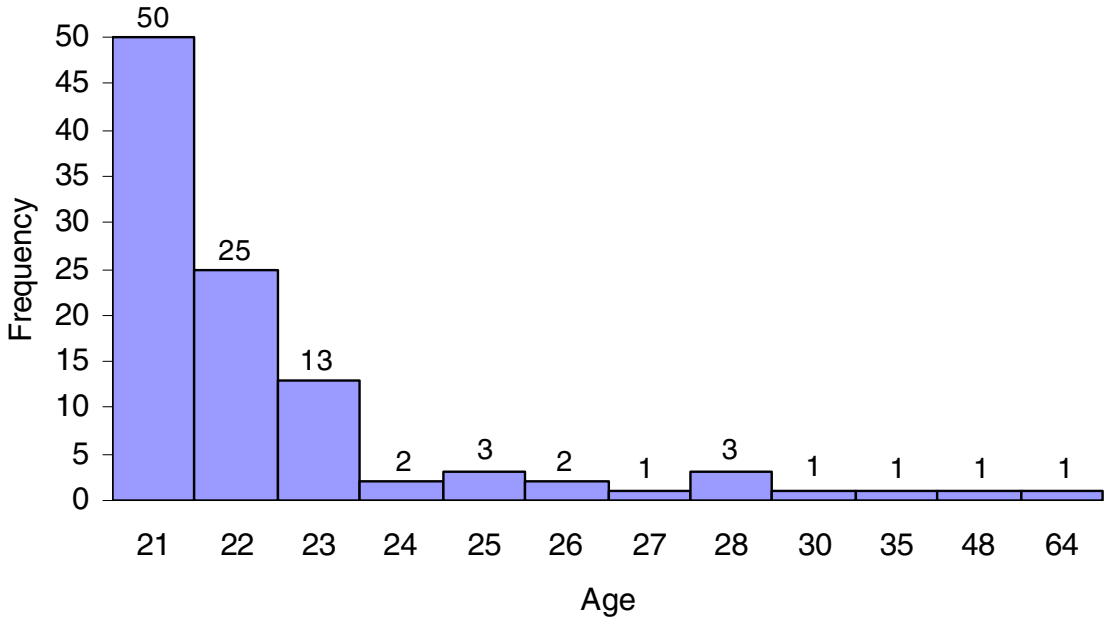

Figure 12. Age distribution of Study 2 sample

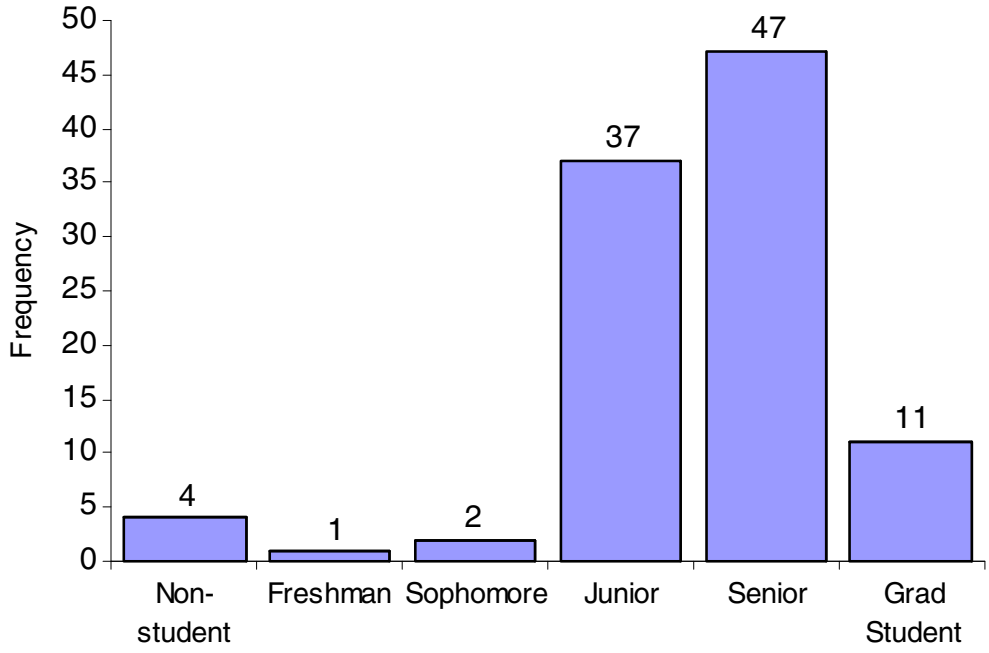

Figure 13. Class standing of Study 2 sample

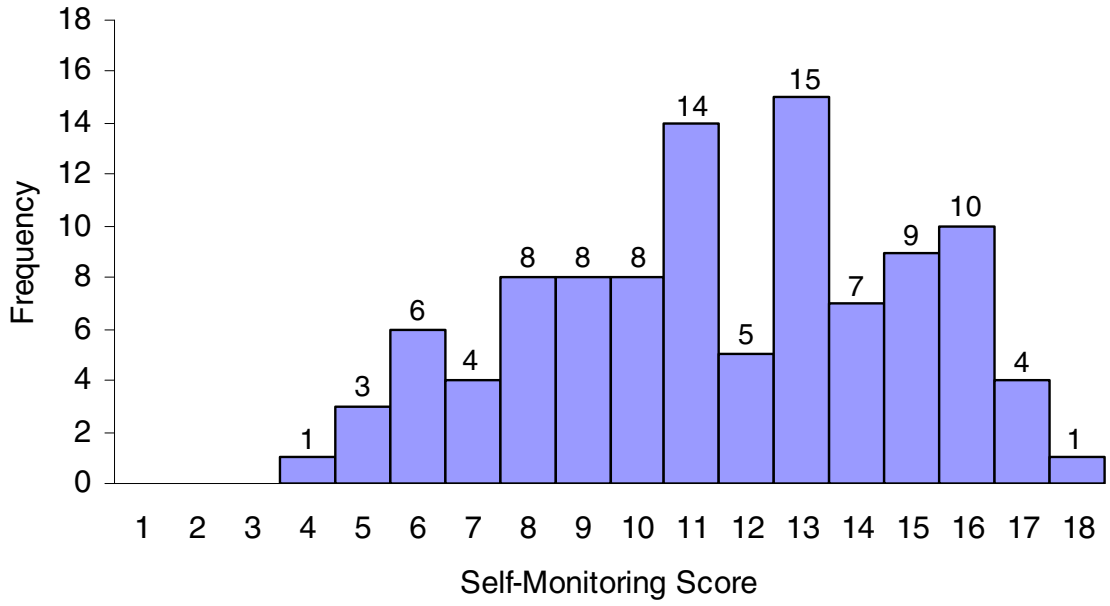

Figure 14. Self-monitoring distribution of Study 2 sample

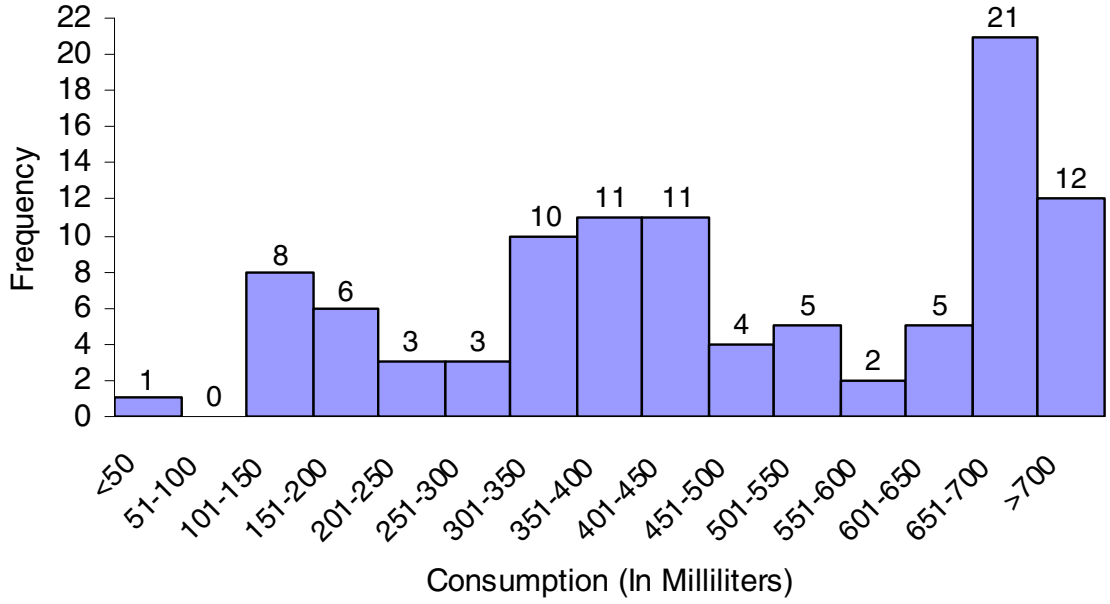

Figure 15. Grouped frequency distribution of consumption

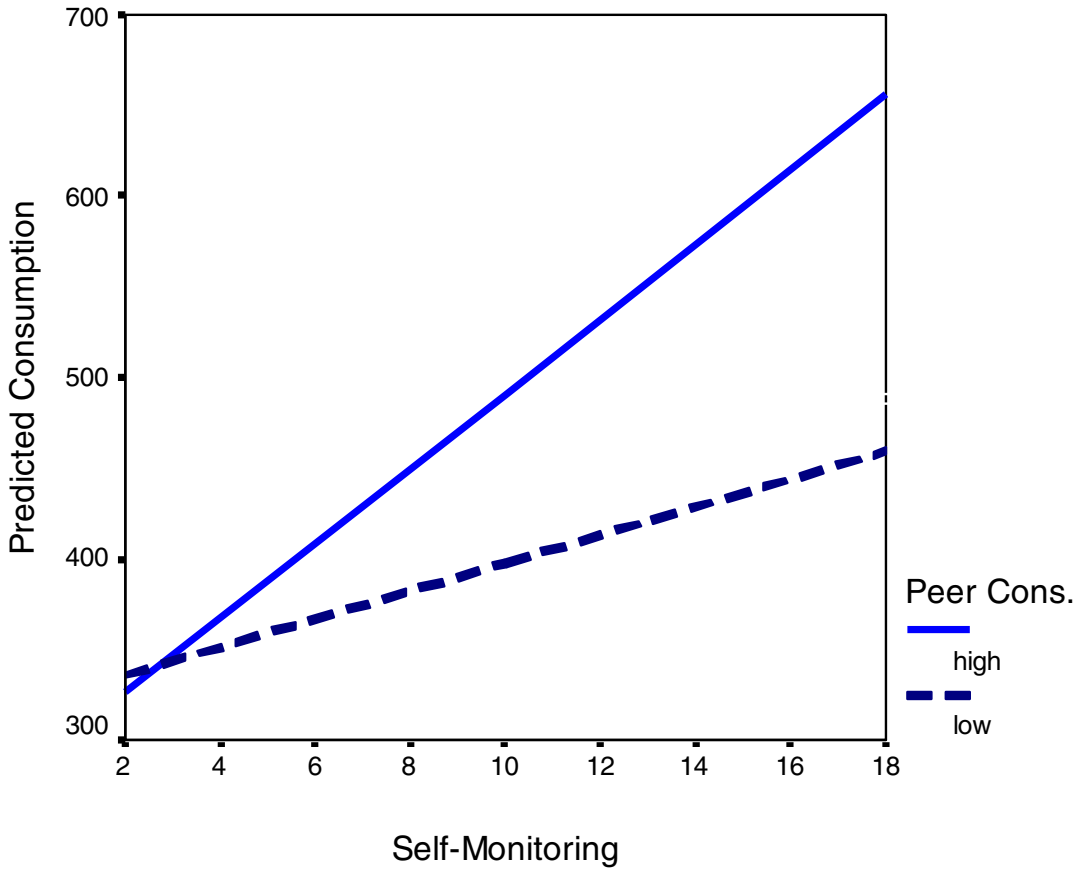

Figure 16. Continuous self-monitoring score by peer consumption interaction

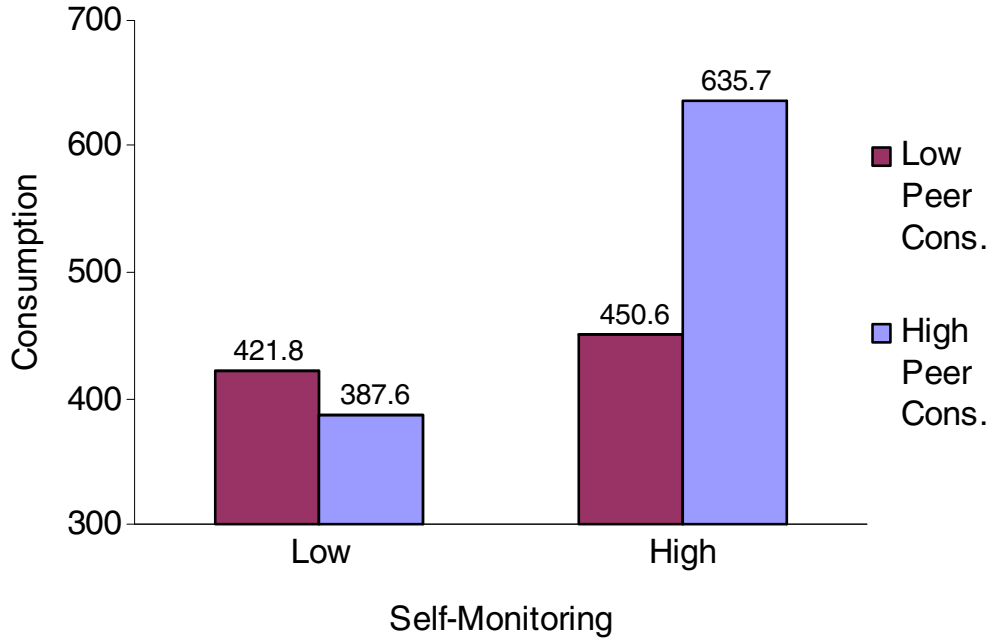

Figure 17. Means for quartile split self-monitoring by peer consumption interaction

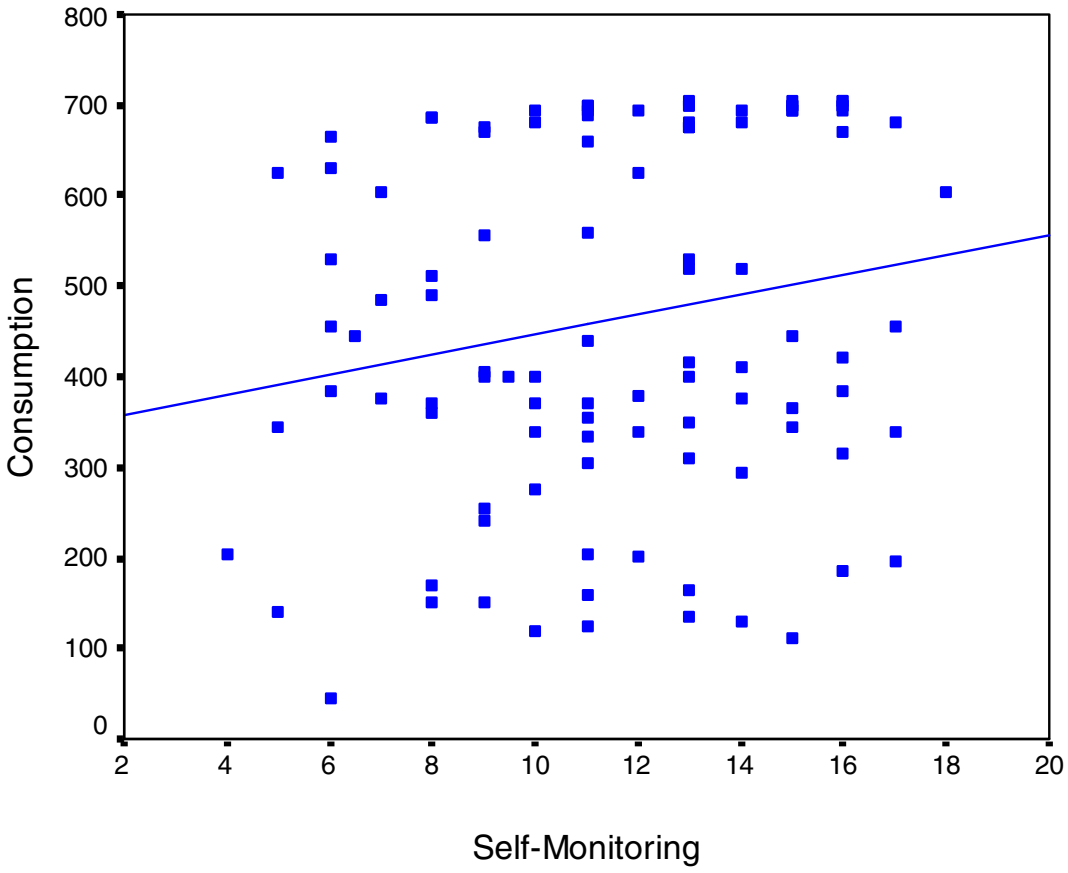

Figure 18. Scatterplot of self-monitoring score by consumption correlation

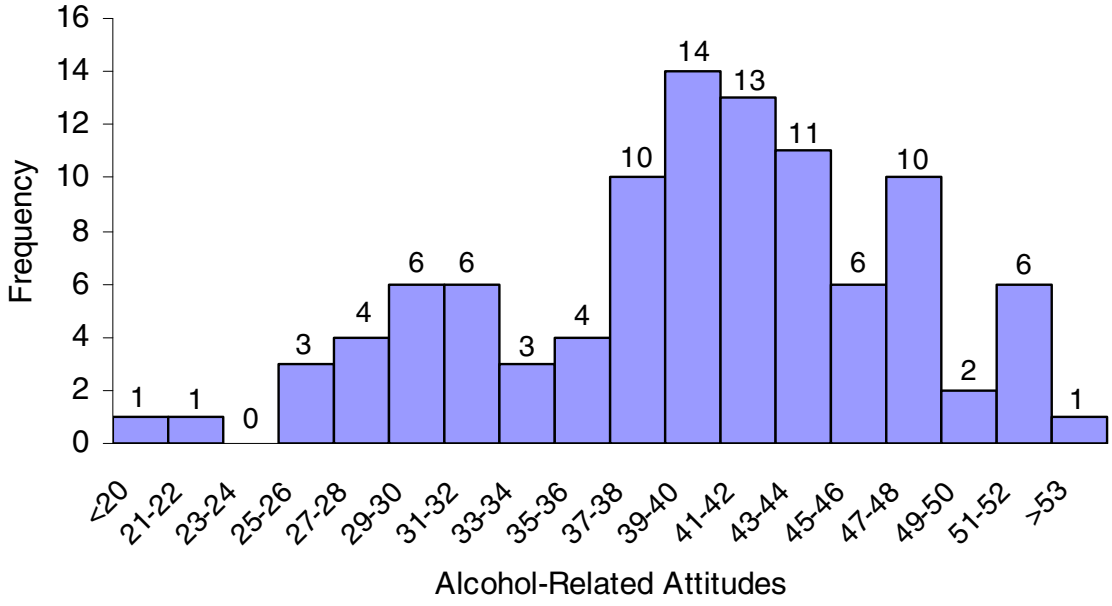

Figure 19. Grouped frequency distribution of scores on alcohol attitudes survey

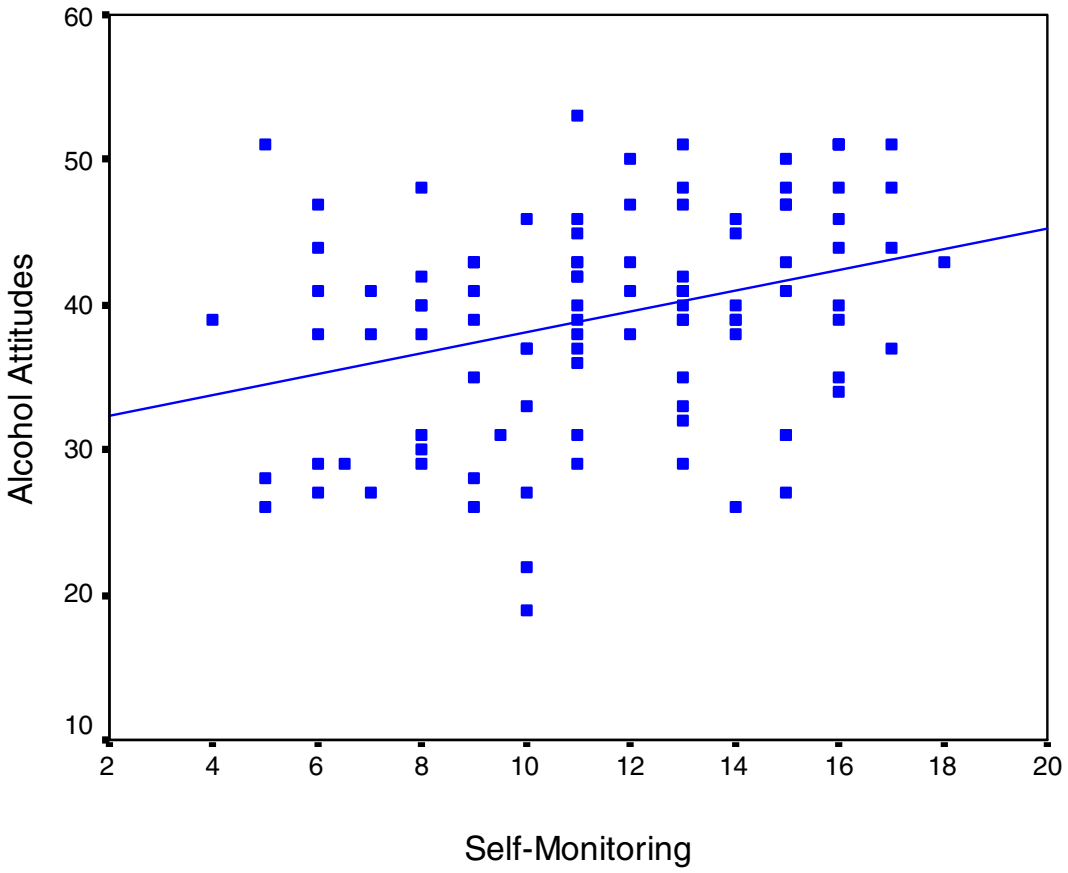

Figure 20. Scatterplot for correlation between self-monitoring score and alcohol attitudes

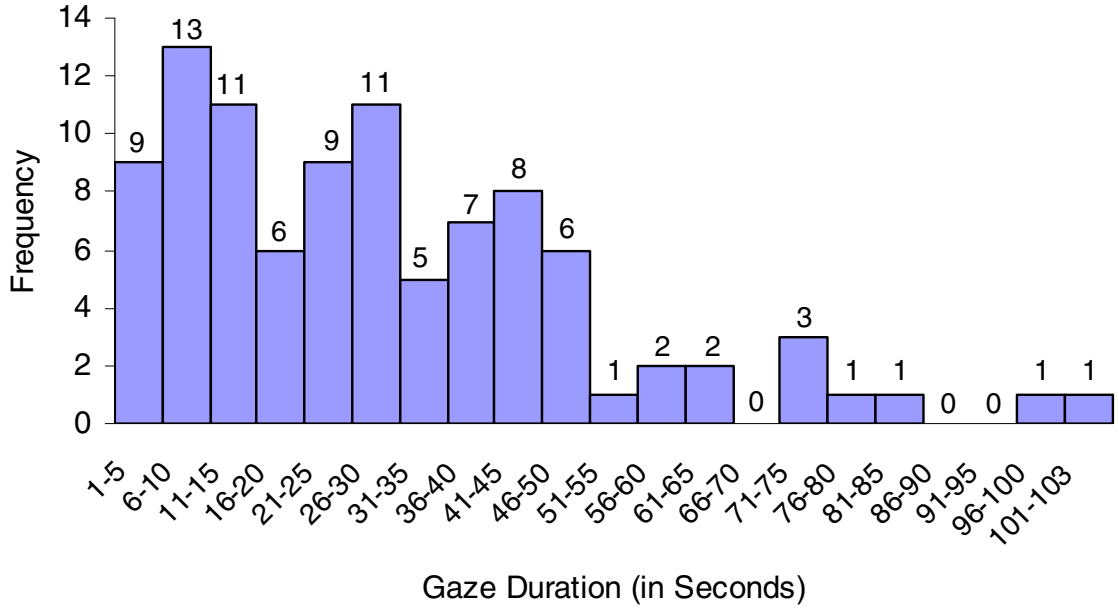

Figure 21. Grouped frequency distribution of gaze duration

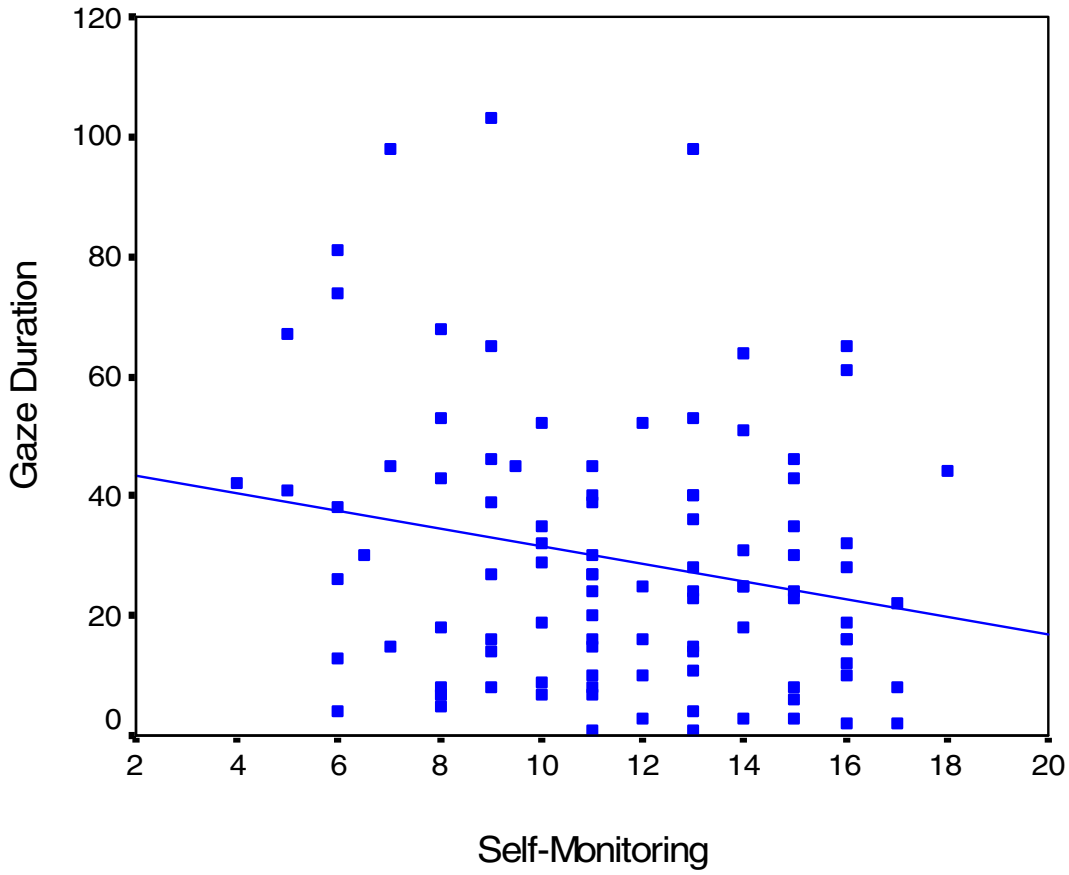

Figure 22. Scatterplot for correlation between self-monitoring and gaze duration

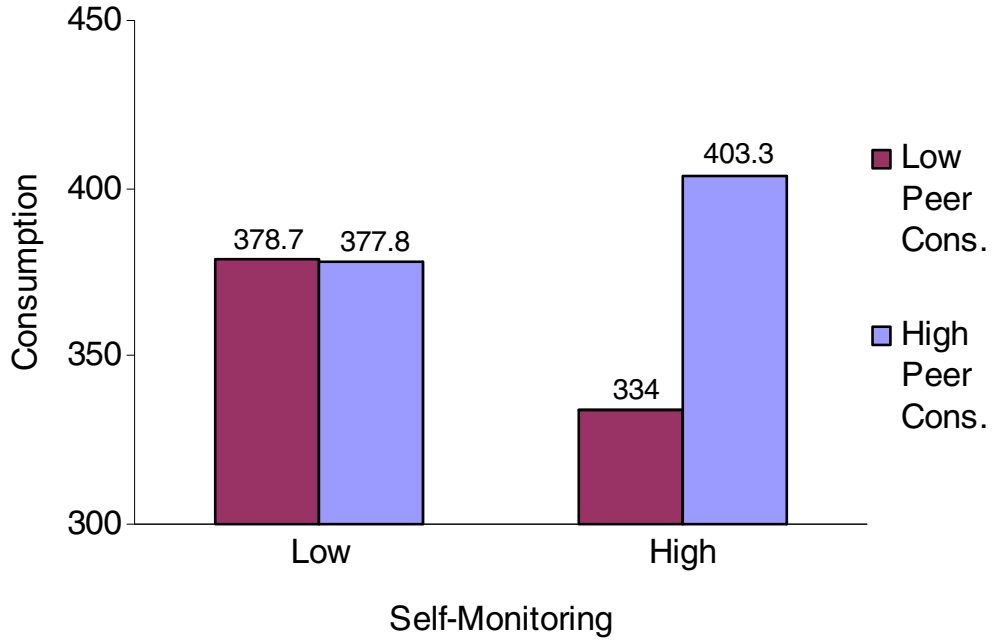

Figure 23. Means for quartile split self-monitoring by peer consumption interaction, removing "chuggers"

Appendix A

PERSONALITY INVENTORY

PLEASE READ THE FOLLOWING QUESTIONS CAREFULLY. PLEASE INDICATE TRUE OR FALSE FOR EACH QUESTION.

1.	I find it hard to imitate the behavior of other people.	**T**	**F**
2.	At parties and social gatherings, I do not attempt to do or say things that others will like.	**T**	**F**
3.	I can only argue for ideas which I already believe.	**T**	**F**
4.	I can make impromptu speeches even on topics about which I have almost no information.	**T**	**F**
5.	I guess I put on a show to impress or entertain people.	**T**	**F**
6.	I would probably make a good actor.	**T**	**F**
7.	In a group of people I am rarely the center of attention.	**T**	**F**
8.	In different situations and with different people, I often act like very different persons.	**T**	**F**
9.	I am not particularly good at making other people like me.	**T**	**F**
10.	I'm not always the person I appear to be.	**T**	**F**
11.	I would not change my opinions (or the way I do things) in order to please someone else or win their favor.	**T**	**F**
12.	I have considered being an entertainer.	**T**	**F**
13.	I have never been good at games like charades or improvisational acting.	**T**	**F**
14.	I have trouble changing my behavior to suit different people and different situations.	**T**	**F**
15.	At a party I let others keep the jokes and stories going.	**T**	**F**
16.	I feel a bit awkward in company and do not show up quite as well as I should.	**T**	**F**
17.	I can look anyone in the eye and tell a lie with a straight face (if for a right end).	**T**	**F**
18.	I may deceive people by being friendly when I really dislike them.	**T**	**F**

Appendix B

CONFIDENTIAL SURVEY

*Please note that answers you provide in this survey will be completely confidential. Your name will not be associated with your responses. Please do not indicate your name anywhere on this page and please answer all questions honestly. Circle the appropriate answer for each question below.

Which of the following best describes your alcohol consumption behavior?

a) I have never tried alcohol
b) I have consumed alcohol, but not within the last year
c) I have consumed at least one alcoholic beverage within the last year
d) I have consumed at least one alcoholic beverage within the last 2 months
e) I have consumed at least one alcoholic beverage within the last 2 weeks

If you go out drinking with friends, which best describes your awareness of your friends' drinking behavior?

a) I rarely ever notice how much alcohol my friends consume
b) I sometimes notice how much alcohol my friends consume
c) I often notice how much alcohol my friends consume
d) I am almost always aware of how much alcohol my friends consume
e) Not Applicable

If you go out drinking with friends, which best describes your own drinking behavior?

a) I usually end up consuming less alcohol than my friends
b) I usually end up consuming about the same amount of alcohol as my friends
c) I usually end up consuming more alcohol than my friends
d) I usually don't notice how much alcohol my friends consume
e) Not Applicable

Have you ever consumed alcohol while ALONE?

a) Never
b) Not within the last year
c) At least once in the last year
d) At least once in the last 2 months
e) At least once in the last 2 weeks

Do you believe that your alcohol consumption (or abstinence from alcohol consumption) portrays something about your image to other people?

a) Strongly agree
b) Slightly agree

c) Neither agree nor disagree
d) Slightly disagree
e) Strongly disagree

Have you ever consumed alcohol to intentionally influence someone else's opinion of you?

a) Never
b) Rarely
c) Somewhat often
d) Often

Thinking back to the first time you ever tried alcohol, were you alone or with other people/ another person?

a) Alone
b) With other(s)
c) Not Applicable

How many alcoholic drinks do you *typically* consume while out with your friends (at a setting where alcohol is consumed)? (One drink equals one 12-ounce bottle of beer or wine cooler, one 5-ounce glass of wine, or 1.5 ounces of 80-proof distilled spirits.) Please indicate your answer by CIRCLING the number of drinks:

n/a 0 1 2 3 4 5 6 7 8 9 10 $\geq$11

How many alcoholic drinks would you estimate each of *your friends* typically consumes while out with you (at a setting where alcohol is consumed)? (One drink equals one 12-ounce bottle of beer or wine cooler, one 5-ounce glass of wine, or 1.5 ounces of 80-proof distilled spirits.) Please indicate your answer by CIRCLING the number of drinks:

n/a 0 1 2 3 4 5 6 7 8 9 10 $\geq$11

Please imagine a male (female) college student who is over 21 (under 21), and who goes out on the weekends and drinks 5 or more (4 or more) beers in a sitting on a regular basis. Below, please write down three words that you, personally, would (a typical college student might) use to describe that student. These three words can be positive, negative, or neutral.

1. _____ 2._____ 3._____

Appendix C

Study Script

Exp: Hi, are you here for the study? What's your name?

[Wait for responses]

Exp: Do you have a valid ID with you? Can I check that please?

[Check ID]

Exp (still in the hallway): Ok, it's going to take me a few minutes to get things ready, so if you can just take a seat right here in the hallway, I'll be with you in just a few minutes. While you're waiting, can you work on this packet of surveys? This is a mass testing packet, which is just a packet of surveys that we use for Intro Psyc students, and we're just trying to get as much data as possible. Anything you can provide will be useful. It'll only take me a few minutes to get ready, so you won't be able to get through the many of the surveys. If you can only get through a couple, that's fine. The packet has a consent form which is completely separate from the consent from that you'll read and sign for my study. So if you could work on this, I'll be with you in just a few minutes.

[Prepare beer and other materials for the study then return to hallway after 3 or 4 minutes to allow enough time to for participant to complete SM scale]

Exp: I just need to go to the other hallway to see if my other experimenter is ready. I'll be back in just a minute.

Exp: (upon return) OK, we're ready now. You can stop working on those forms and come on into the lab. It's okay if you didn't get through many of them.

[Collect packet of surveys and lead participant into lab room]

[Start video then turn on computer monitor and camera]

Exp: Please have a seat right over here. Here is an informed consent form for this study, please read it carefully, let me know if you have any questions, and if not then sign it.

[Wait for participant to complete informed consent and collect the form. Check form for reported allergies.]

Exp: OK, so let me give you some more information. As you know, this is a study about situational influences on product evaluations, attitudes, and behaviors. More specifically, we're investigating the influence of music on taste ratings. And one type of product that we're specifically interested in studying is alcohol, so you'll be tasting beer today. We

are investigating this relationship because beer is often consumed in settings in which music is played, such as bars, clubs, parties, etc. so there's a real-world relationship, which merits scientific investigation.

There are certain university dispensations that allow us to conduct this study on campus. We've gone through an Internal Review Board investigation and we've been given permission to conduct this study under certain safety provisions. I can tell you more about that as we go, but essentially, we just need to make sure that our participants are safe.

As you can see [pointing toward the computer monitor], there is another student participating in the same study. She's in a lab room on the other hallway. You can see her and she can see you by webcam. You'll both perform this taste-testing task, and then you'll get together with this student in a separate room to informally discuss your evaluations of the product, your likes and dislikes, and any other topics that might come up.

The reason you are connected by webcam is because we need to somewhat increase the realism of the situation, because people often drink in the presence of others, but we also need to maintain control over your interactions and over the situation; so you're not interacting freely, at least not during the controlled task. You will interact afterwards. So we ask that you please not gesture or try to communicate by webcam.

The reason we have you interact freely and informally after the task is because we want to get some free-format information from a casual discussion between both participants regarding their ratings of the product. But, you'll be free to talk about anything during that interaction.

The webcam images are recorded, but these recording will be kept completely confidential, kept on one password-protected computer, never shared with any other individuals, and destroyed at the conclusion of the study.

As you can see, you have two cups of beer here, completely sanitary and fresh, and just poured from sealed containers by myself with latex gloves on. It's the same beer in both cups. It's a relatively obscure brand from Germany. It's a Golden Amber beer. You can drink as much or as little as you'd like, and just let me know when you're finished, and I'll have a couple of surveys for you to fill out regarding your evaluations of the beer. We ask that you stand up to indicate that you're finished. I'll be sitting right on the other side of the room though, so you can just let me know.

Both you and the other participant are in a control condition, which means that I will *not* be playing music during the task for you. Sometimes we just have to do that for comparison purposes.

Because this study involves some alcohol consumption, we have to take a BAC reading before you start to make sure that you're not already at a level of intoxication that would make it dangerous for you to participate.

[Take BAC reading]

OK, you can go ahead with the taste-testing, and be sure to stand up and let me know whenever you're ready to move on to the next part.

[Wait for participant to finish taste-testing task]
[Return participant to his seat and give him the Taste-Testing Survey]

Exp: This survey asks about your evaluations of the product. Your responses on this questionnaire and the next one I'll give you will be the basis of your informal discussion with the other student in the peer communication portion of the study.

[Wait for participant to finish then give him the alcohol Attitudes Survey]

Exp: OK, like I said, this survey and the one you just completed will be the basis of your conversation with the other student. This one asks about your attitudes toward alcohol in general. Now, we know that people's attitudes can vary over time, so we're not asking about past or future attitudes, but your attitudes right now. Please let me know when you're done with the survey.

[Wait for participant to finish then give him the Post Taste-Testing Survey]
[Turn off camera and video]

Exp: Ok, we have one last questionnaire. This one is completely confidential. Your responses will not be revealed to the discussion partner. She will not see what you've written on this survey, and you won't see her responses.

[Wait for participant to finish the questionnaire]

Exp: OK, now that you are finished with that, do you have any questions about the experiment so far?

[Record any response given by the participant]

I can tell you now that the experiment is actually over at this point. You will not be speaking with the other student, and I'll explain that to you so you'll understand what's going on in this study.

[Turn off the computer screen. Fully debrief the participant using the separate debriefing script]

Appendix D

Taste-Testing Survey: In comparison to other beers that you have consumed, please evaluate this beer on the following dimensions.

1. Please rate the flavor of the beer:

1	2	3	4	5	6	7	8	9	10
Very bad									Very Good

2. Please rate the appearance of the beer:

1	2	3	4	5	6	7	8	9	10
Very bad									Very Good

3. Please rate the aroma of the beer:

1	2	3	4	5	6	7	8	9	10
Very bad									Very Good

4. Please rate the aftertaste of the beer:

1	2	3	4	5	6	7	8	9	10
Very bad									Very Good

5. Would you consume this beer again?

1	2	3	4	5	6	7	8	9	10
Definitely Not									Definitely

6. Please give your overall evaluation of the beer:

1	2	3	4	5	6	7	8	9	10
Very bad									Very Good

7. For control purposes, please indicate how much you like the taste of beer *in general*, not just the specific one you tried here today:

1	2	3	4	5	6	7	8	9	10
Don't like the taste									Love the taste

8. Please indicate how often you typically consume beer:

Daily basis	Weekly basis	Monthly basis	Very Rarely

9. Please indicate how much beer you typically consume when you drink:

Very little	Slightly below avg.	Average	Slightly above avg.	Very much

Appendix E

ATTITUDES TOWARD ALCOHOL CONSUMPTION

Please answer the following questions using the following scale:

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Undecided	Slightly Agree	Moderately Agree	Strongly Agree

#1) I think there is something wrong with a person who drinks more than five alcoholic beverages on a typical weekend night.

1 2 3 4 5 6 7

#2) The risks involved with alcohol consumption outweigh any of its benefits.

1 2 3 4 5 6 7

#3) In general, I think it is safe to say that alcohol consumption is bad.

1 2 3 4 5 6 7

#4) I prefer parties that do not have alcohol at them.

1 2 3 4 5 6 7

#5) A person who does not drink alcohol in college does not fit in.

1 2 3 4 5 6 7

#6) I prefer to have a beer/drink when I want to have fun and interact with people.

1 2 3 4 5 6 7

#7) I don’t see anything wrong with college students drinking a lot of alcohol on weekends.

1 2 3 4 5 6 7

#8) I think that drinking alcohol can have its advantages in some situations.

1 2 3 4 5 6 7

Appendix F

Post Taste-Testing Survey

Before you begin your discussion with the other participant, please respond to the following questions. All of the following items are completely CONFIDENTIAL; they will NOT be part of your discussion with your partner, and your partner will have no knowledge of your responses to these items.

#1) Do you think there is anything more to this experiment than what the researcher has told you so far? Please circle:

Yes
No
Unsure

If yes, please write what you believe it to be in the space below (please do not make a wild guess):

#1) Although it will NOT be revealed to your discussion partner, please PREDICT on the following 10-point scale how similar you perceive your ratings of the product to be to your partner's ratings (please answer even if you feel like you do not have a valid basis for the prediction).

1	2	3	4	5	6	7	8	9	10
Extremely Dissimilar									Extremely Similar

#2) Although it will NOT be revealed to your discussion partner, please PREDICT how positive or negative you think your PARTNER'S attitudes might be toward alcohol use (please answer even if you feel like you do not have a valid basis for the prediction).

1	2	3	4	5	6	7	8	9	10
Extremely Negative									Extremely Positive

#3) Although it will NOT be revealed to your discussion partner, please PREDICT how similar you perceive your attitudes toward alcohol to be in comparison to your partner's attitudes (please answer even if you feel like you do not have a valid basis for the prediction).

1	2	3	4	5	6	7	8	9	10
Extremely Dissimilar									Extremely Similar

#4) Although it will NOT be revealed to your discussion partner, please indicate how physically attractive you perceive your partner to be.

1	2	3	4	5	6	7	8	9	10
Extremely Unattractive				Average					Extremely Attractive

#5) It is extremely important that you answer the following question honestly: Although it will NOT be revealed to your discussion partner, did you happen to notice how much beer your partner drank from his/her cup? Please circle: *yes* or *no*

#6) Please estimate on the following 10-point scale how much of the beer YOUR PARTNER drank from the cup.

1	2	3	4	5	6	7	8	9	10
Very little beer									A lot of the beer

#7) Please indicate your ethnicity by circling one of the following options:

Hispanic/Latino
Not Hispanic/Latino

#8) Please indicate your race by circling one of the following options:

African American/Black
American Indian/Alaskan Native
Asian
Caucasian/White
Native Hawaiian/Other Pacific Islander
More than one race
Other

#9) Please indicate your current student standing by circling one of the following options:

Freshman
Sophomore
Junior
Senior
Grad Student
Non-student

#10) Please indicate your current relationship status by circling one of the following options:

Single
Dating someone
Serious relationship

#11) Please indicate your sexual orientation by circling one of the following options:

Heterosexual/straight
Homosexual/gay
Bisexual

#12) Please indicate your current age _____.

Appendix G

Debriefing Script

Now that you're finished with the surveys, I can tell you that the experiment is actually now over. You won't be talking to the girl in the video and I'll explain why that is. So this is the debriefing part of the study, where I give you some more information about what we were doing here.

At the beginning of the study we mentioned to you that the purpose of this research is to investigate situational influences on product evaluations, behaviors, and attitudes. We did not give you specific details about all of behaviors and all of the influences that we are investigating because doing so would have influenced your behavior. Sometimes in social research, if participants know some details of a study, it would influence how they behave and we wouldn't be able to get a valid measure of the behavior that we're investigating. In order for valid results to be obtained, we have to try to measure natural and spontaneous behavior, and this most likely will not occur if participants have full knowledge of all details of the experiment.

Now I can tell you that one goal of this study is to see if another person's drinking behavior will have any influence on our participants' drinking behavior or self-reported attitudes about the product. The person on the web video was an assistant of ours and she was previously recorded performing this task, and her behavior was scripted. I'll tell you a little more about that in a minute.

Also, the beer that you consumed was actually a non-alcoholic beer. And we do that only for safety reasons. If we gave people in here beer with alcohol in it, once they leave here it could negatively impact their decision making, they could get into a car wreck, or fall down. So the University approved this study with non-alcoholic beer, but they do not endorse alcohol consumption by students on campus.

One of the surveys that you completed in the hallway gives us an indication of how much you care about what others think. It was that first true/false survey. There are some people who are very concerned with what others think; they have a high concern for self-presentation (or they're motivated to present images to others). Then there are other people who don't really worry about what others think; they have a low concern for self-presentation. We are investigating whether the people who are very concerned with self-presentation will tend to match the amount consumption of the girl in the video more than people who don't really worry about what others think. So in one condition of the study, the girl drinks a whole lot; in another condition, she drinks very little; just a couple of sips. Now, this relationship doesn't hold true for every person, but across all of our participants we're going to see if there's a general effect.

Imagine if I had brought you in here and said "first we need to measure how concerned you are with what others think, then we're going to see if this girl influences your behavior… and, by the way, you're drinking non-alcoholic beer." You probably would have behaved slightly differently; we don't know exactly how, but that wouldn't be the

behavior we're trying to investigate. Do you understand why you were not informed of these details from the beginning? [Wait for reply]

Because we have to recruit from a very limited sample (male students, over 21), if you know of any friends who might be interested in participating, please pass my information along to them. Do you still have my contact information?

How did you here about the study, by the way? Did anyone give you any details about the study? [Wait for replies]

We would like to request that you do not discuss the details of this study to anyone. For anyone who might participate, obviously it would influence their behavior. But even for people who aren't participating; if word gets out about this study, it could really corrupt the study and our results would be invalid at that point. Is it ok that I ask you not to reveal these details? [Wait for response]

Now I know that it may seem odd that I'm asking you to pass along information about the study without revealing any details, but if you know anyone who's going to participate, or who has participated, you can talk to them afterwards if you want. That wouldn't be a problem.

Please do me a favor and look directly at the computer monitor for about 5 seconds; right about where the image of the other person was. [Turn on camera for about 5 seconds.] This is so that we can get a reference point for eye movement. I'm going to code these videos to see how much attention people pay to this other person. Some people may pay a lot of attention to what she's doing; others may not pay any attention at all. So we're going to look at that also.

Do you have any questions about anything? [Wait for reply]

One last question I ask my participants is; why did you choose to drink the amount that you drank? [Wait for reply]

OK, the last thing that we have to do is administer a second BAC test. We have to do this to show you that you have no alcohol in your body. Although not definitive, some research has suggested that placebos presented as alcohol may lead some individuals to act as if they had really been drinking. We want to combat the possibility of you falsely perceiving any level of intoxication to ensure safe and responsible behavior after leaving the study.

[Administer BAC]

As you can see, you are indeed not intoxicated whatsoever, and so you are responsible for your own behavior once you leave the lab.

Thank you very much for participating. If you have any questions or comments about this experiment at some later date, you can contact me at the phone number or email address that you used to sign up. Do you need my contact information again? [Wait for response]

[Pay participant]

Thanks again for participating. Have a good day.

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